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THE

THERAPEUTICS

OF

GYNECOLOGY AND OBSTETRICS

COMPRISING THE

MEDICAL, DIETETIC, AND HYGIENIC TREATMENT

OF

DISEASES OF WOMEN,

AS SET FORTH

BY DISTINGUISHED CONTEMPORARY SPECIALISTS.

EDITED BY

WILLIAM B. ATKINSON, A. M., M. D.,

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L77
1880

PUBLISHER'S NOTICE.

THE present volume is the third in the Series of "Modern Therapeutics," originally projected by the late Dr. GEORGE H. NAPHEYS, but which his death prevented him from completing. The work has been finished under the able supervision of Dr. WM. B. ATKINSON, whose wide experience in this branch of professional study is a sufficient guarantee that it has been well done.

The aim of the Series is to present the most modern and approved plans of treating the diseases considered, as set forth by the most eminent authorities, and specialists in this country and Europe. The word *Therapeutics* is taken in its widest sense, including all efficient means of combatting disease, not only pharmacal, but hygienic, dietetic, climatic and specific as well. A number of authors are quoted, and their views accurately presented. When they differ, as is not infrequently the case, no magisterial attempt is made to decide which is in the right, as this difference of opinion is evidence that further observation and a very wide induction are demanded to reach a positive decision. It is better that such difference should be noted by practitioners: and that the circumstances of the case and its surroundings should be the guide to the selection of remedial measures.

The "Résumés of Remedies," added to each disease, are intended to set forth, in alphabetical order, all the agents which have been recommended in its treatment by good, recent authorities. New methods and recent additions to the Materia Medica are given special attention, but only such admitted as appear to have solid evidence in their favor. Those of special value are marked with an asterisk (*). In this department recent medical periodical liter-

ature has been closely scanned for information, and references are given to special articles and monographs.

Substantially the same plan is carried out in all the volumes of the series, and the favorable reception which the *Medical Therapeutics* and the *Surgical Therapeutics* have met with, induces a hope that the present volume will be found not less serviceable to the practicing physician.

EDITOR'S PREFACE.

In compliance with the wish of the publisher, the editor of the present volume has carefully reviewed the material prepared for it and has added extensively from recent treatises, monographs, and journals, containing matter on the two specialties represented. The great activity which has been manifested of recent years in these branches, particularly that of Gynecology, renders it almost impossible for a physician who has to attend to a large general practice to follow the rapid advance in therapeutic methods which has taken place. This work is designed to present him all of these which are worth his attention; great care has been exercised that nothing of ascertained value should be omitted; and the editor believes that very few omissions of this character will be found.

In accordance with the plan preferred by the publisher, precise directions in the plans of treatment have been preserved, and the exact formulæ presented whenever these could be obtained. Undoubtedly, in some instances, the therapeutic vagueness which is fashionable in many books on practice at the present day, is largely chargeable with the distrust of remedial measures often encountered among medical men.

It has been deemed best to preface each chapter with a "Synopsis of Diagnostic Points," setting forth, in brief but clear forms, the distinctive signs and symptoms between the diseases considered in the chapter. This permits the etiological plans of treatment to be presented more distinctly, and may also serve as a reminder in cases of puzzling similarity.

Philadelphia, 1880.

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PART I.

GYNECOLOGICAL THERAPEUTICS.

CHAPTER I.

DISEASES OF THE OVARIES, DISORDERS OF MENSTRUATION, AND GENERAL DISEASES.

Synopsis of Diagnostic Points—Ovaritis, Acute and Chronic (Ovarian Neuralgia, etc.)—Ovarian Tumors—Amenorrhea—Dysmenorrhea — Menorrhagia and Metrorrhagia —Hysteria—Chlorosis and Anemia—The Change of Life, or Climacteric Epoch.

SYNOPSIS OF DIAGNOSTIC POINTS.

OVARITIS.

The principal diseases of the ovaries are acute, subacute, and chronic ovaritis or oöphoritis, and ovarian tumors.

The following are the distinctions between the two forms of inflammation of the organ.

Acute Ovaritis.	*Chronic Ovaritis.*
Preceded by sudden suppression of menstruation, gonorrhea, pelvic peritonitis or external violence.	Preceded by displacements of uterus, irregular menstruation, or neglect of precautions at menstrual epoch.

Fever, perhaps chill; severe pain in one or both iliac fossæ. Great sensitiveness over the ovary, which may sometimes be felt as a round ball.	Fixed pain over one or both ovaries, dysmenorrhea and hysteria, pain in rectum and down thighs, worse after defecation, leucorrhea, sometimes sterility and dyspareunia.
Abscess or resolution in four to six days.	Chronic, and not amenable to treatment.
The disease is rare.	The disease is quite common.

In the subacute form, by the recto-vaginal touch, we may grasp with the two fingers a smooth, roundish body, as large as a cherry, producing exquisite pain. This sign is characteristic of subacute oöphoritis, for neither simple morbid congestion of the ovary, nor oöphoralgia, nor retro-uterine hematocele, nor metritis, nor lymphadenitis, nor perimetric phlegmon, will give the phenomenon of pain so well marked and so precisely localized.

It should be remembered that gonorrheal infection is an occasional cause of acute ovaritis, in which case specific treatment is demanded after the first symptoms have abated.

In chronic ovaritis ATTHILL has observed that persistent vomiting was a prominent symptom.

In a lecture reported in the London *Medical Times and Gazette*, Dr. J. MATTHEWS DUNCAN states that occasionally this disease is seen as a consequence of fever, especially typhoid, cholera, rheumatism; and, in close connection with these diseases, it is very frequently a result of the use of alcoholic liquors, even when these are not taken to excess; and this view of the causation of the disease is in the most gratifying manner frequently corroborated, if not proved, by the cure which follows upon the adoption of strictly temperate living. A great mass of cases occur as a consequence of recent marriage, suppression of menstruation, abortion, and delivery at the full time, when there is no evidence of blood poisoning.

OVARIAN TUMORS.

The diagnosis of these tumors is often of the utmost difficulty. In the first place, pelvic tumors generally are simulated by pregnancy, ascites, obesity, intestinal and vesical distention, and similar conditions. When a tumor is actually present, it may arise from other sub-peritoneal tissues as well as from the ovary. And when from the ovary, it may be either malignant or benign.

Professor KŒBERLE, of Strasburg, lays down the following general rules:

In subperitoneal serous cysts, there is no loss of flesh. The tumor, unilocular, presents a very manifest fluctuation; its walls are thin; its development slow, though at times rapid enough; it sometimes attains a considerable size without becoming adherent. to neighboring organs; sometimes it is small and very adherent.

In cysts of the ovary, wasting is pronounced. The tumor, whether uni- or multi-locular, often presents a limited fluctuation; its walls are occasionally thin, occasionally more or less thick and resistant, hard and nodulated; its development is ordinarily rapid, sometimes slow; lastly, it is adherent whenever the volume is at all considerable.

A more positive method is by *aspiration* and examining the contained fluid. This diagnosis rests principally on the presence or absence of albumen, metalbumen, and paralbumen. Parovarian cysts, or those of the broad ligament, contain a very fluid liquid, generally colorless and limpid as water, sometimes quite salt, but generally not containing any albuminous material; when it does contain albumen, it is the paralbumen that is precipitated by nitric acid, but the precipitate redissolves in acetic acid.

Cysts of the Fallopian tube contain only albumen, and no paralbumen; the precipitate produced by nitric acid is increased by acetic acid.

Ovarian cysts furnish a liquid charged with albumen, metalbumen, and especially paralbumen, giving a precipitate soluble in nitric acid.

Well marked, these reactions are conclusive; but there are exceptional cases where they are but feebly present.

All doubt is removed, however, and we have to do with an ovarian cyst, when puncture gives exit to a glutinous fluid, sometimes entirely uncoagulable by heat and nitric acid, rarely limpid, containing only traces of albumen (colloid cysts), or a fatty liquid containing in suspension mucus and epidermic detritus or hair (dermoid cysts). Lastly, examined by the microscope, the fluid of ovarian cysts contains granular globules, yellowish, 0.003 millimètres to 0.060 millimètres in diameter, the envelope being rendered more apparent by acetic or phosphoric acid.

MR. SPENCER WELLS remarks that in ascites, the stomach and intestines, containing air, float on the surface of the fluid, and,

therefore, the highest points of the tumor, the patient lying on her back, give out a clear sound on percussion. If, however, the fluid be contained in a cyst, the stomach and intestines are pushed aside, as the tumor rises in the abdomen, and lie in the epigastric and two lumbar regions. Hence, the highest points of an ovarian tumor emit a dull sound when percussed, and the epigastric and lumbar ones give a clear sound. By applying these general rules in any ordinary case, a few seconds will enable a surgeon to clear up all doubt.

ATLEE says mobility diminishes as size increases, there is freedom from constitutional symptoms, the emaciation is most striking about the face, neck, shoulders and arms, the expression of countenance is anxious, careworn, the features attenuated, the complexion pale. An important point is the position of the tumor in relation to the viscera; it is usually in front, and gradually crowds them backward, upward, and to the sides. There is a dull percussion sound over the space occupied by the tumor. Fluctuation can be recognized only in the tumor. The form of the abdomen is rarely uniform.

As a general rule, according to Dr. T. M. DRYSDALE, ovarian fluids have an animal odor; they are rarely clear, usually cloudy, and frequently opaque; in color they vary from that of white of egg or clear starch, to shades of yellow, red, green, or dark chocolate, or even inky black; in consistence, they may be almost like water, or thin syrup, mucilage, oil, or molasses, or ropy, or jelly-like; but they always are sticky and viscid, and generally feel slimy. A sediment rarely fails to form after a few hours; this is viscid, and often like pus. Reaction generally alkaline. Chemically they consist of albumen, fats, extractives and salts. Notably they contain an excessive amount of solid matter, often $\frac{1}{10}$ of the whole weight of fluid. *They never contain fibrin*, unless hemorrhage has occurred into the cyst, or it has been inflamed. Microscopically they usually display free granular matter, oil globules, epithelial cells, crystals of cholesterine, etc., *but no matter what other cells may be present or absent, the cell which is almost invariably found in ovarian fluid is the granular cell.* This is generally round or may be slightly oval, delicate, transparent, contains a number of fine granules, but no nucleus. The granules are well defined. *Acetic acid makes them more distinct.* Ether renders them nearly transparent. Other cells, on the addition of the acid, increase in size, become very transparent and exhibit nuclei.

AMENORRHEA.

Amenorrhea may be primitive or acquired. In the first form menstruation has never taken place, or if it has occurred at all, the discharge has always been scanty, or has appeared at prolonged intervals, or both. In the second form menstruation has taken place regularly and healthily, and has afterwards become suppressed.

The following table represents the various forms of this affection, their causes and pathological significance:

PRIMITIVE AMENORRHEA.

Menstruation absent (emansio mensium).	No formation of decidua.	Uterus undeveloped or absent; Ovaries well or ill-developed, or absent.	
		Uterus well-developed, but inactive. Ovaries, well-developed.	Anemia. Chronic disease. Bad hygienic conditions. Emotional shocks. Physical shocks. Acute diseases. Change of residence. Exposure. Bathing. Plethora. (?)
Menstruation scanty.	Scanty formation of decidua.	Uterus small. Ovaries well or ill-developed.	
		Uterus well-developed.	Anemia. Bad health.
Menstruation irregular and generally scanty.	Irregular and generally scanty formation of decidua.	Uterus usually small, but may be well-developed.	Anemia. Bad health.

ACQUIRED OR SECONDARY AMENORRHEA.

Menstruation absent (suppressio mensium).	No decidua formed.	Uterus and ovaries well-formed.	Anemia. Chronic disease of lung, liver, kidney, ovaries, uterus, or gastro-intestinal canal. Bad hygiene. Shocks, physical or emotional. Acute diseases. Blood-taint. Exposure. Bathing. Change of residence.
		Over-involution after labor.	
		Early menopause.	

In place of the discharge of blood, there may be a leucorrhea, more or less profuse.

It should never be forgotten that in not infrequent instances amenorrhea, supervening apparently without cause, is the first sign of *phthisis*, and in all such cases should arouse the most active attention of the physician. Some writers hold that in these cases the amenorrhea is not so much the sign as the exciting cause of the tuberculous change.

DYSMENORRHEA.

The forms and causes of dysmenorrhea are defined by Prof. T. G. THOMAS, in accordance with the following table:

Form.	*Symptoms.*	*Causes.*
Neuralgia.	Pain usually sharp and fixed.	The neuralgic diathesis; phethora or chlorosis; malaria; theumatoria; onanism.
Dysmenorrhea.	No expulsive pains; flow steady; no clots; no obstruction; occurs gradually; is habitual; no endometritis.	
Congestive or Inflammatory Dysmenorrhea.	Pain severe, sudden; discharge lessens or ceases. General pyrexial signs, and inflammatory constitutional disturbance.	Exposure to cold and wet; tumors; mental disturbance, endometritis, etc.
Obstructive Dysmenorrhea.	Pain sudden and accompanied with an expulsive effort after menstruation has commenced some hours ("uterine colic"); recurrence of these symptoms. Discoverable obstruction.	Contraction of cervix; uterine flexion; polypus or fibroid; obturator hymen.
Membranous Dysmenorrhea.	Pains steady, becoming violent and expulsive; passage of membrane at each period; as sequelæ, endometritis and menorrhagia. Very rare.	Early abortions; diphtheritic endometritis.
Ovarian Dysmenorrhea.	Pain, dull and sickening, usually precedes the flow several days, and lessens when it comes on. Breasts painful or tender. "Submammary pain." "Intermenstrual pain," occurring between the epochs. Ovaries often enlarged and tender. Pain habitual at each epoch; often shoots down the thigh.	Ovaritis; excessive nervous hyperæsthesia.

BARNES says a characteristic sign of ovarian congestion is that the body of the uterus is drawn towards the affected ovary.

MENORRHAGIA AND METRORRHAGIA.

By *menorrhagia* is meant an excessive flow of blood at the menstrual period; by metrorrhagia, a flow of blood between the menstrual epochs.

Neither of these forms of trouble can be called a disease, as they are solely symptoms of several kinds of uterine affection. In order to diagnose the cause, and thus obtain the indications for treatment, a careful examination becomes necessary. In most instances, it is the result of general debility, as from protracted nursing. Locally, it may be caused by the presence of tumors, as polypi, etc., affections of the os and cervix, congestion of the womb or ovaries, subinvolution of the womb, or inversion of that organ.

Debility as a cause, is recognized by the usual symptoms, and the accompanying predisposing circumstances, as lactation, anxiety, exhausting labor, etc.

Polypi, when low down, are easily recognized by the finger, though the speculum may be used to confirm the diagnosis. In these cases there is leucorrhea, more or less bloody, and at intervals discharges of pure blood, without relation to the period of menstruation. Where a polypus is not found pendent in the vagina, the prsence of these growths may be suspected above, as in the canal of the neck, or even within the uterus itself, and attached to the fundus. The absence of other causes of the hemorhage would demand dilatation of the organ if necessary, and a careful search for these excrescences.

Subinvolution only occurs in women who have been pregnant Here, the womb, after delivery has been accomplished, fails to return to its proper condition. The diagnosis is readily made by examination. The uterus is much larger than natural, the os soft and patulous; there are pains in the back, irritability of the bladder, frequent micturition, with tenesmic efforts, and generally very profuse leucorrhea. These may end in erosion of the os and cervix, and added to these we may have congestion of the lips of the womb.

Again, hemorrhage may be due to the presence of a portion of the placenta, which is frequently the case after an abortion. This might be suspected from the history of the case, and the diagnosis fully made by an exploration with the sound, when the foreign

body is detected. In such cases there is generally a certain amount of odor, as of a decaying body in the cavity.

In the unmarried, a spongy state of the cervix is generally a cause; this is shown by eversion of the lips, and granulations on the surface.

Malignant disease as a cause is detected by the general history; there has been more or less pain, often lancinating, in the lower part of the abdomen, the back, around the hips, and extending down the thighs, which frequently seems to be much relieved after profuse hemorrhage has occurred. This hemorrhage would occur from a slight exertion, or after coitus. Examination shows in advanced cases fixation of the uterus, hardness and irregularity of the parts. In early cases, these symptoms all exist, but to a less extent.

CHLOROSIS AND ANEMIA.

These two diseases, though not strictly synonymous, may, from their great resemblance, be treated of as one. A marked feature is amenorrhea, or imperfect menstruation. The complexion is pale, or of a greenish yellow. The patient is listless, loses appetite, or only desires dainties, generally craves acids, or may even prefer articles of an injurious or loathsome nature; she is irritable, hysterical, suffers with headache, which is sure to come on after the slightest excitement or exertion. The poverty of the blood is shown by cold extremities, swelled feet and hands, puffiness of the face, dark rings around the eyes, and blowing sound of the heart. Though not always present, yet, in many instances, there are vague neuralgic stitches in the breasts, the head, the sacral region. In rare cases, after the disease has continued a while, a slow fever sets in, which may lead to an error in diagnosis.

THE CHANGE OF LIFE.

This period, known as the climacteric or menopause, varies greatly as to the time of its appearance. The woman menstruates for about thirty-five years, and then occurs a marked change, which may be sudden, or may slowly steal upon her. Most commonly this is attended by a variety of troubles, which to a greater or less extent affect the general health. A most frequent symptom is irregularity of the menstrual function. It ceases, perhaps for months, and as suddenly reappears. Or the flow becomes alarmingly profuse, exhausting the patient, draining her. With this

may be associated hemorrhages from the nose, from the bowels, profuse leucorrhea, and brain symptoms as of congestion, vertigo, frequent syncope, epileptic or apoplectic seizures. BARNES regards the headache as peculiar, chiefly occipital, involving the nucha and spinal cord. The mind is affected. There are irritability, loss of memory, despondency, even partial insanity, but all of which are generally acknowledged by the patient, and she regrets her want of self-control.

The appetite is capricious or lost, generally the bowels are obstinately costive, fat begins to accumulate, and these symptoms often give rise to the belief that the woman is pregnant, which is speedily dispelled by the proper examination. The liver and kidneys, in fact nearly every organ, are liable to become affected and to add to the general discomfort.

Morbid growths are now extremely apt to present themselves, or when previously known, to take on increased action. In rare instances, a change for the better, a marked improvement occurs, and an invalid is now restored to health, or at least greatly relieved.

OVARITIS (ACUTE, SUB-ACUTE AND CHRONIC).

PROFESSOR J. MATTHEWS DUNCAN, M. D., OF EDINBURGH.

On the subject of *acute and chronic ovaritis*, this author states there is no specific treatment. In chronic cases, two, three or four leeches may be applied to the cervix uteri, through a speculum, after the monthly periods. Croton oil liniment, or antimonial liniment, or a blister, may be applied to the inguinal canal adjacent to the affected gland. The bowels should be regulated by gentle saline laxatives. Leucorrhea, if present, should not be actively treated, but by mild injections only. Mercury and iodide of potassium may be given in small doses.

PROF. GRAILY HEWITT, M. D., OF LONDON.

In acute cases, entire *rest* is essential. When the attack is owing to a chill, from exposure, leeches should be applied over the ovaries, followed by hot anodyne poultices. Hot turpentine stupes are also valuable.

In chronic cases, cold affusions and hip baths are often useful. Sexual indulgence must be strictly limited. At the menstrual periods, the patient should remain on the couch, and a stimulating nourishment be avoided. Between the epochs moderate out-door exercise is valuable. Tartar-emetic ointment or other counter-irritants may be used over the ovary. To relieve pain the following pill is efficacious:

1. ℞.	Pulveris opii,	gr.ss	
	Extracti cannabis indicæ,	gr. ½	
	Camphoræ,	gr.j.	M.

For one pill, night and morning.

EDWARD JOHN TILT, M. D., OF LONDON.

In severe ovario-uterine pain, this practitioner recommends placing a pledget of cotton-wool soaked in laudanum, or acetate of morphia, near or upon the neck of the womb. This may be repeated daily or every other day. Two or three grains of morphia may be used at a time in this manner.

When the ovaries are congested or inflamed, the best method of treatment is to *leech the womb.* Four leeches may be applied to

the cervix a day or two after the flow has ceased. The effect is usually well-marked. Blisters and ointments to the hypogastric region only act on the ovaries indirectly, and even double the number of leeches mentioned, when applied over the ovary, do not produce so permanent an effect.

In chronic and obstinate forms of ovario-uterine disease, silk setons applied above the pubes, as recommended by HUGUIER, deserve trial.

For the pelvic and spinal pains of ovario-uterine disease, Dr. TILT recommends rubbing the surface twice a day with one of the following ointments:

2. ℞.	Linimenti belladonnæ,	f.℥ij	
	Glycerinæ amyli,	f.℥j.	M.
3. ℞.	Morphiæ acetatis,	gr. x	
	Glycerinæ,	f.℥ss	
	Otto rosarum,	gtt.j	
	Unguenti petrolei,	℥j.	M.
4. ℞.	Potassii iodidi,	℥j	
	Magnesiæ,	gr.v	
	Otto rosar.,	gtt.j	
	Aquæ,	f.℥j	
	Unguenti petrolei,	℥j.	M.

Apply twice daily.

5. ℞.	Atropiæ sulphatis,	gr.ij	
	Morphiæ sulphatis,	gr.iv	
	Olei olivæ,	f.℥j	
	Olei lavandulæ,	gtt.x	
	Unguenti hydrargyri fortis,	℥j.	M.

A piece about the size of a small walnut is to be rubbed in morning and evening, over the sensitive ovary.

LOMBE ATTHILL, M. D., DUBLIN,

Finds great benefit from the inunction twice a day, over the part, of equal portions of the ointment of veratria and iodide of potassium, and in some cases he adds a small quantity of ointment of cantharides.

J. WARING CURRAN, M. D., LONDON.

Ovarian Neuralgia. This writer maintains that in various instances we meet with true *ovarian neuralgia*, independent of any local lesion, and more remediable by constitutional than by local treatment. He identifies it with the *ovarian irritation* of Dr. CHURCHILL. His prescription for such cases is:

6. ℞. Ammoniæ muriatis, ʒij
Tincturæ aconiti, f.ʒij
Syrupi aurantii corticis, f.ʒviij. M.
A teaspoonful thrice daily in the treatment of *ovarian neuralgia.*

Dr. CURRAN states that this combination has almost a magical influence in many cases. He reports (*Medical Press and Circular*, August 19th, 1868), six cases in which various sedatives and anodynes had been tried in vain. In all he found that before the above mixture was finished by the patient, the pains had entirely ceased.

Dr. T. J. NEWMAN, of Chicago, confirms the usefulness of this mixture, and records (in the *Chicago Medical Examiner*, for November, 1869), three cases of neuralgia of the ovaries treated by it with success, after the failure of other remedies.

In the same painful complaint, Dr. ROBERTS BARTHOLOW has obtained excellent results from the following recipe:

7. ℞. Extracti belladonnæ, gr.iv
Extracti stramonii, gr.v
Extracti hyoscyami, gr.v
Quiniæ sulphatis, ℈ij. M.
Make twenty pills. One three times a day, in ovarian neuralgia and neuralgic dysmenorrhea.

DR. J. MILNER FOTHERGILL, OF LONDON.

Ovarian Dyspepsia. This writer has pointed out that a frequent complication and often the most prominent symptom of subacute ovaritis is a form of gastric atony which he calls "ovarian dyspepsia." (*American Journal of Obstetrics*, January, 1878.) For the treatment of such cases he recommends as the great therapeutic agent, the *bromide of potassium.*

8. ℞. Magnesiæ sulphatis, ʒj
Potassii bromidi, ℈j
Infusi gentianæ, f.ʒj. M.
This amount three times a day, with an aloes and myrrh pill at bed time if necessary.

A blister should be applied over the tender ovary.

For the vaginal loss, injections of astringents in solutions by means of a Higginson's syringe, or the small india rubber ball and tube used to give babies enemata (much better in every way than a glass syringe), must be used twice a day, with hip baths daily, if the patient's condition will admit of it. This is far from unimpor-

tant. When there is menorrhagia, quietude and the avoidance of all warm drinks and food during the flow are desirable. For the imperfect digestion, light and easily digestible food, milk, if necessary, combined with an alkali, or beef-tea with a little cream in it, or custard, are indicated. Such food should be given at short intervals, and small quantities at once. The irritable stomach will often retain small quantities of food when larger amounts are at once rejected.

LAWSON TAIT, F. R. C. S., BIRMINGHAM

This writer (*Diseases of Women*, 1879), divides inflammatory affections of the ovaries into (1) ovarian hyperemia, (2) acute ovaritis, (3) chronic ovaritis.

Ovarian Hyperemia.—This is frequently met with in young girls and in young married women with vigorous husbands, and in prostitutes of tender age. The patient should rest in a prone position for a few days before, during, and after the menstrual period; a counter-irritant should be placed over the ovarian region just before the flow is expected; and she should take *ergot* before and during the period, and the salts of potassium continuously during the intermenstrual time. His favorite formula is:

9. ℞. Ergotinæ (Bonjean), gr. ss.
Lupulinæ, q. s. M.
For one pill.

In addition to this, between the epochs,

10. ℞. Potassii bromidi, gr. v-x.
For one dose, night and morning, after meals.

All cases of ovarian hyperemia which Mr. TAIT has met with at puberty have yielded to this treatment, and most of those of a later age.

Acute and Chronic Ovaritis.—No time can be laid down where ovarian hyperemia passes into ovaritis, nor between the acute and chronic forms of the latter. The treatment should consist of local and systemic rest, and the administration of ergot. Locally, counter-irritation in the inguinal region, with linimentum iodi every morning until the spot is sore, and this repeated frequently, will nearly always do good. Bromide of potassium may be combined with the ergot. Arsenic and cod liver oil are also useful, and some cases will yield to large doses of quinine, when everything else has failed.

RÉSUMÉ OF REMEDIES.

Ammoniæ Murias is often efficient in ovarian neuralgia. (F. 6).

Antimonii et Potassii Tartras. Counter-irritation by means of tartar emetic ointment is of service in subacute ovaritis.

Atropia, hypodermically, $\frac{1}{120}$ - $\frac{1}{60}$ grain in ovarian neuralgia. Belladonna in plaster is often of service.

Brominium. BARNES says that this agent seems to possess a specific power in diminishing ovarian irritation.

Camphora is very serviceable in ovarian pain. (F. 1).

Hydrargyri Unguentum. Dr. E. J. TILT, of London, recommends in subacute ovaritis—

11. ℞.	Unguenti hydrargyri,	ʒij	
	Extracti belladonnæ,	ʒj	
	Ceræ,	ʒij	
	Adipis,	℥j.	M.

Warm water enemata, and gentle aperients (castor oil), should accompany the treatment.

Iodinium. Painting the sensitive regions with tincture of iodine is a useful means of counter-irritation.

Opium. Vaginal suppositories of opium gr. ij, made up with paraffin, frequently give great relief. ARAN was accustomed to pour two drachms of laudanum daily or every other day, through a speculum, on and into the cervix.

**Potassii Bromidum.* This agent is asserted to possess almost specific powers in reducing ovarian irritation, and pain, nymphomania, etc. (F. 8, 10).

Potassa cum Calce. In chronic ovaritis, BARNES recommends as a means of derivation, setting up a small issue or eschar on the vaginal portion of the uterus with this agent.

Terebinthinæ Oleum, used in the form of hot epithems, is frequently available.

GENERAL METHODS.

Blisters over the ovarian region are frequently of service in the sub-acute forms.

Enemata. Warm water enemata, retained as long as possible, are often of great benefit.

Ice applied in a bag to the painful spot, is said by Dr. TILT to relieve the pain of acute ovaritis.

Leeches are a very valuable means of relief. (See page 26.)

Pessaries. A light pessary, to support the womb and keep the ovaries in their normal position, will often prove of decided advantage.

Ovariotomy. As a last resource in severe ovaritis, the organs may be removed by BATTEY'S operation.

OVARIAN TUMORS.

The medical treatment of tumors of the ovaries embraces:

Internal medication.

Injections into the sac.

Electrolysis.

Internal medication. It has been believed by some practitioners that a prolonged use of *muriate of ammonia* has led to atrophy, absorption and disappearance of certain benign ovarian tumors. Two such cases are recorded at length by Dr. E. H. W. HUNTER, in the *Trans., of the Georgia State Med. Soc.*, 1877. He gave gr. xx of the muriate, four times daily. In ovarian dropsy, the free use of *chlorate of potassa* is said to have resulted in marked diminution of the contents.

PROF. E. R. PEASLEE, M. D., NEW YORK

Believed that, in several instances, the growth of ovarian cysts had been checked by the application into the vagina, of *iodide of lead.* The ointment may be smeared on a cotton tampon, and introduced from time to time. Care must be exercised that too great irritation is not excited.

Injections into the sac. The substance usually employed for this purpose is *iodine.* Some surgeons use the pure tincture. Dr. BOINET, of Paris, employs—

12.	℞.	Tinct. iodinii,	f.℥iij	
		Potassii iodidi,	℥j	
		Acidi tannici,	℥ss	
		Aquæ destillatæ,	f.℥iij.	M.

He injects the whole of this amount, brings it in contact with the entire surface of the sac by gentle agitation, and then withdraws it.

Prof. T. GAILLARD THOMAS recommends as the best procedure to empty the sac by the aspirator, and without withdrawing the needle, fill it with tincture of iodine, and in ten minutes draw it off. He would confine this plan of treatment only to a late period, in cysts of moderate size, with few compartments, and containing a fluid which is not very viscous.

Electrolysis. Within the last few years, great attention has been given, especially in Germany, to the dispersion of ovarian tumors by electrolysis, and it was at one time confidently announced that this plan would supersede ovariatomy.

Further observations show that while in many instances electricity, properly applied, will reduce the tumors very materially, the effect of the agent is temporary, and it is very doubtful whether any permanent and real benefit accrues from the procedure. In Vienna, the electrolytic treatment has been carefully and repeatedly tested, and it is now wholly neglected as of no avail. (See *Am. Jour. of Obstetrics*, Oct., 1878.

EPHRAIM CUTTER, M. D., BOSTON,

In a report to the *Amer. Med. Assn.*, in 1879, says it is dangerous to operate on a person suffering with albuminuria. He regards it as proved, that the results obtained are due to the passage of a current, and not to solely to puncture. With Dr. KIMBALL, he has operated on 61 cases. In one case, the fibroid was extracted from the vagina fifty-three days after the application. In a similar case, there was a small, nodulated, mobile fibro-myoid attached at and incorporated with the fundus. The os was ulcerated, and the operation was advised to arrest the hemorrhage. A current was applied for seven minutes. Two months after, no tumor could be felt, and the os was healed. In one case, an electrode was applied per vaginam, and the circuit was completed by a sponge electrode over the pubis, but with such alarming results that the procedure was shown not to be safe. It is best to confine the action of the current to the tumor, as it alone is in fault, and needs the whole force. This is effected by complete insulation of the needle in the healthy tissues.

AMENORRHEA.

JOHN WILLIAMS, M. D., LONDON.

Referring to the classification of the forms of amenorrhea already given (see page 21), this writer suggests the general line of treatment as follows (*Lancet*, May 26, 1877):

Menstruation is and always has been absent. The great majority of cases of this class which will come under observation will be young girls between sixteen and twenty years of age. Many of them will suffer from anemia and disorders of the digestive organs. Such cases are instances of late or tardy evolution of the generative organs. The form and figure may be well developed, but the uterus grows slowly, and the treatment consists in waiting and adopting all means that favor its growth. There will, after all, remain a few in which the discharge will not make its appearance. In these it will be found that the uterus is small, and the best treatment is non-interference.

Menstruation is scanty or irregular. If it be due to an undeveloped condition of the uterus, and if it be accompanied by no pain, the general health being good, it requires no special treatment. General means which favor physical development, as exercise of all kinds, may be recommended. If the uterus have obtained its full size, there will, in almost all cases, be found a disordered state of the general health. The most common condition is anemia. In such cases the physician should regulate the bowels, for there is generally constipation, and give iron, iodine, salines; good diet, fresh air, and exercise in the open air, are essential. Exercises of all kinds are good—riding, walking, swimming, dancing. If the monthly molimen be present, emmenagogues may be prescribed, but they should never be administered when indications of ovarian and uterine action are present. The medicines supposed to have a direct action in bringing on the menses are numerous, but few of them are of much or even of any value. The best are *electricity*, *aloes*, and the stimulating diuretics—nitrous ether, spirits of juniper, and oil of turpentine. Hot hip-baths for five or six nights in succession before the expected return of the molimen are useful. Guaiacum, ergot of rye, oil of savin, cantharides, have proved successful in the hands of some. Dr. ATTHILL recommends the warm.

hip-bath for eight or ten evenings in succession before the expected time.

Suppression of the menses. When the suppression has taken place suddenly during a menstrual flow, the patient should have a hot bath, go into a warm bed, and take a dose of Dover's powder. A stimulating diuretic or a diaphoretic should be at the same time prescribed. Should fever, heat in the skin, vomiting, pain in the abdomen, and symptoms of local inflammation or of general peritonitis set in, they should be treated irrespective of the suppression. If the flow is not re-established, the case becomes one of chronic suppression.

Chronic suppression. The general health should be attended to, and if menstrual molimina be present they should be encouraged, and efforts made to establish the flow by the means already enumerated. If molimen be absent, we must limit our aid to the treatment of the general health.

PROF. R. J. GRAVES, M. D., DUBLIN.

This author observes, in his *Clinical Lectures*, that the periodicity of the function of menstruation can still be traced, even in cases where suppression has continued for a great length of time, by means of the menstrual molimina (pains in the loins, thighs, and hypogastric region, flushing, colicky pains of the abdomen, general feeling of *malaise*), which occur at stated intervals; in endeavoring to bring on the discharge, therefore, we must be guided as to the time the attempt should be made, by an observance of the period at which these molimina occur. For a few days before that time, our efforts to produce a determination of blood to the uterus may be judiciously employed; and if they fail, the attempt should be abandoned until a few days before the next menstrual period. Of course, however, the general constitutional treatment must be constantly persevered in; one of the chief means of bringing back this evacuation being the restoration of health to the natural standard. But all such remedies as pediluvia, stuping of the genitals, leeches to the inside of the thighs, near the labia, aloes and other stimulative purgatives, etc., should be only used at the times spoken of. To use them at any other period, either after the molimina have disappeared, or during the intervals between them, tends, in most cases, still further to derange nature, by determining to the uterus at an unseasonable time, when there is no natural

tendency to that organ. Under such circumstances, the very same means fail and prove injurious, which, applied so as to coincide with the time of the natural effort, would have been successful.

To illustrate these principles by an example. We are consulted in the case of a young woman affected with various hysterical symptoms for several months, and during that period more than usually subject to headache, languor, loss of spirits, diminution of appetite, and irregularity, and usually constipation of bowels; she is pale, and complains of various pains and uneasy sensations, and has not menstruated since the appearance of these symptoms. Here it is evident that the constitutional treatment must be strengthening and tonic. The practitioner will, therefore, recommend regular hours, much exercise in the open air, a nutritive diet, and afterward cold shower-baths; he will regulate the bowels, and afterward prescribe a course of tonic medicines, chalybeates, preparations of bark, strychnia, etc.; he will likewise inquire carefully when the last period happened, and where, and how often since that occurrence menstrual molimina were observed. He thus ascertains when they should again recur, and contents himself with enforcing the constitutional treatment until about six days before the calculated time. Then he lays aside the other medicines, and has recourse to those means which determine to the uterus. Two leeches are applied to the inside of the thigh, near the labium, every second night, until they have been three times applied. The bleeding is encouraged by stuping. On the intermediate days the bowels must be actively moved by aloetic pills; and for three nights before and after the molimina, hot pediluvia, rendered stimulating by mustard seed, may be used. During the same time, also, frictions, with stimulating liniments, should be applied to the feet and legs every morning, and oil of turpentine or tincture of cantharides may be exhibited internally, while the necessity of more active exercise is inculcated. If these means fail, they must for the moment be laid aside, and the constitutional treatment must be again resumed, until the same number of days before the next period, when the list of remedies above spoken of must be again tried, and in few cases indeed shall we find them to fail.

PROF. T. GAILLARD THOMAS, M. D., OF NEW YORK,

In cases of rudimentary or atrophied uterus suggests local stimulation and distention. Every week or two it should be distended

by a tent. In the intervals, an intra-uterine galvanic pessary should be worn. This however, requires time. After general treatment, in cases of anemia, etc., he uses other local stimulation by dry-cupping the cervix uteri. Electricity is of value. One pole of the battery may be placed over the lower part of the spine, and the other either passed over the hypogastrium, or brought in contact with the neck of the womb; or it may be carried within that organ by means of a wire covered with a gum catheter.

E. J. TILT, M. D., OF LONDON,

Advises a couple of aloes and myrrh pills each night, to produce moderate alvine action; the legs placed in a pail of hot water on rising, and a warm hip-bath at night; mustard to the inner parts of the thighs and breasts on alternate nights; the breasts dry-cupped, or rubbed with a stimulating liniment. On retiring, a linseed meal poultice as hot as can be borne to the lower part of the abdomen. These measures are to be tried for three days, and again after an interval of twenty-one days, and in the interval, a chalybeate is to be taken, and a bit of piline sprinkled with alcohol to be worn during the day over both ovarian regions. This he continues for three or four months. Occasionally, during the three day, he gives a mixture of acetate of ammonia, chloric ether, and fluid extract of ergot. When the head is much distressed, he applies six leeches to the labia, followed by a hot hip-bath, or a hot poultice to the labia.

He offers the following:

13. ℞. Oil of savin, f.℥j
Spirits of nitrous ether, f.℥iij
Mucilage, f.℥j
Water, to f.℥vj.

Shake well. Dose.—A teaspoonful every two hours, when the patient is half comatose from suppressed menstruation.

Or,

14. ℞. Tincture of ergot, f.℥ij
Syrup of saffron, f.℥ss
Comp. decoction of aloes, f.℥iss.

Dose.—A teaspoonful three times a day.

He recommends the association of podophyllin and aloes, in pills, for the same purpose.

PROF. ROBERT BARNES, OF LONDON,

Thinks that the blood is in want of salines as well as of iron, and that this is the first want. He gives solution of acetate of ammonia, adding a little nitrate of potassa, and a light tonic as hop, cinchona or calumba. He employs iron in the form of the ammonia-citrate, the solution of the acetate, or the dialyzed iron. Between salines and iron, he would give iodide of potassium in doses of five grains three times a day. He believes that the restorative power of iron is much increased by the addition of strychnine or ergot.

PROF. J. B. FONNSAGRIVES, OF PARIS.

This learned author divides amenorrhea, for the treatment, into the following classes:

1. *Plethoric amenorrhea.* Local and general bleeding, the resinous purgatives, and low diet, are here indicated. SIREDEY recommends in addition *bicarbonate sodium*, gr. v. daily, two or three days before the period; or solution of the acetate of ammonia.

2. *Nervous amenorrhea*, characterized by a condition of general nervous erethism. RACIBORSKI in such cases gives twenty to thirty drops of the solution of *acetate of ammonia*, in hot water, several times daily, for three or four days before the period, and also has recourse at times to ergot and *vaginal fumigations* with carbonic acid gas.

3. *Tuberculous and scrofulous amenorrhea* require the general treatment of dyscrasiæ.

4. *Amenorrhea by counter-fluxion.* This arises when some other organ, by reason of its congestion, checks or prevents the normal uterine molimen of the menses. In such cases the attention of the practitioner must be directed to removing the congested condition of the interfering organ.

DR. EMIL DILLENBERGER, VIENNA.

Treatment demands the removal of those errors and lesions which lie at the bottom of the malady, If the amenorrhea consists of some anomaly of the sexual organs, congenital or acquired, and such as cannot be remedied, or in some other irremediable malady, treatment is useless. If menstruation has been already established, the physician must convince himself, by a careful examination, whether or not pregnancy is the cause of the

cessation of the periods. Internally are used aloes and myrrh, as follows:

15. ℞. Pulveris aloës, gr.lxviij
Pulveris myrrhæ, gr.xxxiv
Extracti glycyrrhizæ, q. s. M.
For sixty pills. Two to four pills two or three times a day.

16. ℞. Pulveris aloës socotrinæ,
Pulveris myrrhæ, ää gr.xlviij
Croci sativi, gr.xxxiv
Extracti glycyrrhizæ, q. s. M.
For ninety pills. From four to six twice a day.

Or, savine, as follows:

17. ℞. Pulveris frondis sabinæ,
Sacchari albi, ää gr.xxxiv
Olei menthæ piperitæ, gtt.iij M.
Divide into six powders. One to be taken three times a day.

18. ℞. Olei sabinæ, gtt.vj–xij
Sacchari albi, gr.lx. M.
Divide into six equal powders. Put in waxed paper. Take one powder three times daily.

19. ℞. Pulveris frondis sabinæ, gr.lxviij
Croci sativi, gr.xxij
Olei sabinæ, gtt.viij
Extracti gentianæ, q. s. M.
For sixty pills. From three to five pills two or three times daily.

Or, direct crocus and borax, as follows:

20. ℞. Boracis venalis, gr.xxxiv
Croci sativi, gr.xiij
Sacchari albi. gr.xxij
Olei menthæ piperitæ, gtt.j. M.
Divide into six powders. One powder three times a day.

Amenorrhea is often more certain to be cured by putting an end to serous or bloody discharges from various organs, by treating for an improved condition of the blood, with good nourishment and a corresponding regimen, with iron, preparations of cinchona, cold washing, etc., than by theemployment of emmenagogues without any plan.

For outward application, the following are useful: Warm uterine douche; brushing the mouth of the womb with tincture of iodine; leeches to the portio vaginalis uteri, to the labia pudendi, to the inner side of the thighs, or to the perineum; dry cuppings

and mustard poultices to the inner sides of the thighs; warm stimulating foot-baths, with mustard, salt, potash, or aqua regia; warm sitz-baths, or half-baths; bath at Ems, etc. In many girls marriage is the first thing that regulates the menstruation.

DR. FRITZ, OF PARIS.

This writer gives the following directions in the *Union Médicale*, No. 151, 1878. If the flow has been suppressed by the patient's catching cold, warm hip-baths, vapor-baths, and stimulating foot-baths will be found useful. The patient must be well covered with warm clothing, and take sudorific drugs and stimulants, such as ether, acetate of ammonia, or infusion of lime blossoms. Hot fomentations must be applied to the lower part of the abdomen and the genital organs, and mustard plasters to the inner surface of the thighs; cupping might be advisable instead of mustard. Stimulating injections will also be found very useful.

This treatment has to be continued for some days, and renewed when the next period is due. If the patient is plethoric, and congestions have been determined in the pelvic organs by the suppression of the period, leeches must be applied to the perineum, the labia, or the thighs cupped, and if the patient be constipated, a purgative must be given. If the suppression be caused by some moral cause, and the woman is excitable, the nervous system must be treated with antispasmodics and sedative drugs.

HOSPITAL OF THE UNIVERSITY OF PENNA., PHILADELPHIA.

In amenorrhea from anemia and chlorosis, the following prescription embodies the hospital practice:

21. ℞. Pulv. ferri sulphat.,
Potassii carb. puræ, āā ʒij
Mucil. tragacanthi, q. s. M.
Div. in pil. No. 48.

S. To be given daily in doses gradually increasing, until three pills are taken after each meal.

This gives the large quantity of twenty-two and a half grains of the dried sulphate of iron per diem.

To counteract the possible costive effect of the sulphate of iron, this aperient mixture is given:

22. ℞. Pulv. glycyrrhizæ rad.,
Pulv. sennæ, āā ʒss
Sulphuris sublim.,
Pulv. fœniculi, āā ʒij
Sacchar. purif, ʒiss.
S. One teaspoonful in half a cupful of water at bed-time.

Where the disease is due to torpidity of the ovaries, this prescription is used:

23. ℞. Ex. aloës, ʒj
Ferri sulphat. exsic., ʒij
Assafœtidæ, ʒiv.
Signe. One pill after each meal. This number to be gradually increased to two and then to three pills after each meal. If the bowels are at any time over-affected, return to the initial dose of one pill after each meal.

DR. PINTSCHOVIUS, OF KETZIN.

24. ℞. Extracti pulsatillæ,
Foliorum pulsatillæ, āā q. s.
Divide into pills of three grains each; one three times a day.

PROF. J. M. DA COSTA, M. D., PHILADELPHIA.

25. ℞. Apiol, gr. iv.

In the form of a granule, or "pearl," four times a day, as an emmenagogue. To be taken for three days before the expected period. Apiol is an excellent remedy for amenorrhea, when there is no uterine disease.

PROF. COURTY, OF PARIS.

26. ℞. Pulv. rutæ,
Pulv. sabinæ,
Pulv. ergotæ, āā gr. $\frac{3}{4}$,
Pulv. aloës, gr. $\frac{1}{2}$–$\frac{3}{4}$.
For one pill.

Of these thirty are ordered, and three are taken the first day, six the second day, and nine the third day, always in three doses. They are suited for cases of idiopathic amenorrhea, without great reaction on the economy, and when there is reason to suppose that the suppression of the menses is due either to an insufficient determination towards the genital organs, or to a difficulty of discharge due to inertia of the uterus. In order to encourage the fluxion towards the genital organs, Dr. COURTY orders, before beginning the pills, foot-baths, sitz-baths, and fumigations. He also

applies leeches to the labia during the three days the pills are being taken. The pills generally induce colicky pains, and often a little diarrhœa.

RÉSUMÉ OF REMEDIES.

Achillea Millefolium (*Yarrow*). Dr. RONZIER-JOLY reports very successful use of this plant in amenorrhea in tuberculous girls. He uses an infusion of the flowering tops, ʒiij to aquæ Oj. STILLÉ believes that this plant possesses peculiar relations to the pelvic organs. It is especially called for where imperfect or absent menstruation depends upon a condition of atony in the reproductive organs.

Aconitum may be employed, in the form of the extract, with advantage in amenorrhea. Dr. RINGER, of London, recommends it in the sudden suspension of the menses, as from cold.

Aloes, in a small enema, containing gr. x, employed at the proper menstrual period, is said to be a very certain emmenagogue. Dr. E. J. TILT, of London, recommends its internal administration combined with podophyllin. It is frequently combined with myrrh.

Aloin. Dr. TILT gives:

27. ℞. Aloin, gr. ij
Cocoa butter, gr. x.
Make a suppository.

Ammonii Murias, in the hands of Dr. ANSTIE, in gr. x doses, three times a day, in cases of amenorrhea marked rather by general feebleness than by anemia, has occasionally seemed to conduce directly and considerably toward the cure. But of this, as of all other emmenagogues, it is pre-eminently true that it is worth absolutely nothing if not exhibited precisely on the fit occasion.

Ammoniæ Aqua has been successfully employed in the form of injection into the vagina:

28. ℞. Aquæ ammoniæ, f.ʒj
Lactis, Oj–ij. M.
To be injected into the vagina daily.

Apiol is highly recommended by Dr. JARET (*Buil. Gén. de Thérap.*, August 15, 1860), and others since, as one of the safest and best of emmenagogues, not being even contra-indicated in incipient pregnancy. It is said to be especially adapted for cases attended with local or general nervous symptoms. (F. 24.)

Argenti Nitras, applied in substance lightly to the os uteri at the time of the expected appearance of the menses, has proved successful in obstinate cases.

Artemisia Vulgaris. The mugwort once enjoyed considerable reputation as an emmenagogue.

Belladonna. In plethoric amenorrhea, belladonna is an efficacious remedy. It is quite popular on the continent and recently Dr. F. T. PORTER, of Dublin, has reported marked success with it.

Cantharides. Dr. W. P. DEWEES placed much confidence in the internal use of tincture of cantharides, in doses of gtt. xx., gradually increased to gtt. xxxv. or xl Dr. T. H. TANNER, of London, combined it with bromide of potassium.

Cimicifuga has been found an effectual remedy in some cases.

Crocus Sativus. The saffron as a stimulant aromatic has efficacy in functional amenorrhea. The celebrated "Pills of Rufus" are composed as follows:

29. ℞. Aloës, gr. iss
Myrrhæ, gr. ¼
Croci, gr. $\frac{1}{60}$
Syrupi absinthii, q. s.
For one pill; 5 to 10 pills daily.

**Ergot* is recommended by Dr. TILT, of London (in doses of gr. v–x, in powder, two or three times a day). He usually gives it in conjunction with other remedies:

30. ℞. Tincturæ ergotæ, ♏xxx
Syrupi croci, f.℥ss
Decocti aloës compositi, f.℥iss. M.
A teaspoonful three times a day.

Or,

31. ℞. Liq. ext. ergot., f.℥j
Prepared lard, gr.iv
Cocoa butter, up to gr. xv.
Make a suppository.

**Ferrum Redactum*, and the other ferruginous preparations, are indispensable in the anemia which constantly accompanies stoppage of the function.

Galbanum may frequently be combined, with benefit, with the salts of iron.

Hydrargyri Chloridum Mite is contra-indicated, if the patient be feeble, and is capable of doing much mischief in unsuitable cases. But Drs. GRAILY HEWITT, ASHWELL, and others, have found it a decided emmenagogue. Dr. HEWITT directs that on two successive nights, at the time of the expected period, a dose be given of five grains of calomel and six grains of aloes, followed by a Seidlitz powder in the morning.

Iodine frictions over the abdomen have been found to give good results.

Iodoform, internally, has been recommended.

32. ℞. Iodoformi,
Extr. gentianæ, āā ℥j
Pulv. gentianæ, q. s.
Make 100 pills. Three to six daily.

Mentha Pulegium. Pennyroyal has a popular reputation as an emmenagogue.

Myrrh, in combination with iron and aloes, is a standard remedy in amenorrhea. Dr. TILT, of London, recommends the following so-called "Elixir of Paracelsus:"

33. ℞.	Tincturæ myrrhæ,		f.℥iv	
	Tincturæ croci,			
	Tincturæ aloës,	āā	f.℥iij.	M.

F.℥ij–iij, twice daily, in a little water.

Potassii Bromidum. The value of bromide of potash in amenorrhea, especially that connected with nervous and hysterical phenomena, neuralgia, ovarian irritation, scanty and painful menses, has lately been strongly urged by Dr. M. ROSENTHAL, of Vienna (*Wiener Med. Presse*, No. 46, 1878). He repeats it in full doses for some days before the menses begin.

Pulsatilla is said by PHILLIPS to be of the greatest value in functional amenorrhea, and that following fright or chill; gtt.j–v of the tincture three or four times a day.

Ruta Graveolens. The rue has been recognized as a direct emmenagogue since the time of Hippocrates. As it is a decided irritant of the intestinal canal, it must be given with caution. According to E. HAMELIN (*Dict. des Sciences Médicales*, 1877), it is especially indicated where suppression is due to atony or inertia of the uterus. The powder is used by Dr. COURTY (F. 26). A better preparation is the essential oil. The following is from Dr. DUBOIS:

34. ℞.	Olei rutæ,			
	Olei sabinæ,	āā	gtt.vj	
	Sacchari,		ʒvij	
Rub together and add				
	Aquæ aurant. flor.,		f.℥iiss.	M.

A dessertspoonful every hour.

A rectal injection of an infusion of rue, ʒj to Oj, is occasionally serviceable.

Sabina is considered by Dr. TILT, of London, as the most reliable of a very uncertain set of remedies. He has never seen any ill effects from its use, though he has given gtt.xx. of the oil, twice a day. He orders:

35. ℞,	Olei sabinæ,	f.ʒj	
	Spiritûs ætheris nitrosi,	f.ʒiij	
	Mucilaginis,	f.℥j	
	Aquæ,	f.℥vj.	M.

A teaspoonful every two hours, the bottle being previously shaken. A plaster containing the oil may also be worn over the ovarian region.

PEREIRA, HOME, PHILLIPS, LOCOCK, and SIR CHARLES CLARKE, all testify to its efficacy.

Senega was first recommended as an emmenagogue by Dr. HARTSHORNE, of Philadelphia. He gave a pint of a saturated decoction daily during a fortnight before the expected appearance of the discharge.

Sinapis. A hot mustard hip-bath is often useful, the patient remaining in it for an hour each time.

Sodii Biboras. Dr. COPLAND recommends the following:

36.	℞.	Sodii biboratis,		ʒss
		Aloês socotrinæ,		
		Pulveris capsici,	āā	gr.xx
		Olei lavandulæ,		q. s.

Make eighteen pills. Take two thrice daily.

Strychnia. Small doses of the extract or alkaloid of nux vomica, combined with aloes and myrrh, are sometimes of service.

Tanacetum has a popular reputation.

Terebinthinæ Oleum. Turpentine enemata have been given with success:

37.	℞	Oil of turpentine	f.ʒss
		Barley water.	Oj.

For one enema, to be given once or twice a day.

Zingiber. Hot ginger tea is a popular remedy for suppression from cold.

GENERAL MEASURES.

Electricity. This agent has been found useful in various instances. In chronic suppression, Dr. P. S. HAYES, of Chicago, places one of the electrodes alternately over each ovary and the uterus, the other electrode over either sacro-iliac synchondrosis, the current being frequently reversed (*Chicago Medical Examiner*, Jan. 1875). Dr. JULIUS ALTHAUS considers the most effective form of applying electricity in amenorrhea to be the induction of catelectrotonus of the ovaries (*Medical Times and Gazette*, March 14, 1874). He places the negative electrode of the constant battery, alternately to the right and left ovarian region, putting the anode alternately to the lumbar spine and to the os uteri, by means of an insulated sound. The action should be kept up for fifteen minutes at a time, and repeated daily about the period the molimen should recur. The late Sir JAMES SIMPSON was accustomed to use, with advantage, an intra-uterine galvanic or zinc and copper pessary, in the treatment of amenorrhea, the result of imperfect development of the uterus.

Leeches. TROUSSEAU strongly recommends leeches. His method of using them was peculiar. He placed a single one, or at most two, on the thigh or knee at the time the menses were due. As soon as the leech fell, he arrested the bleeding, so as to promote congestion of the surrounding tissue. Sometimes, he asserts, the menstrual pains begin almost as soon as the bleeding is thus checked.

Massage. This is appropriate in cases of suspended menstruation. Dr. DOUGLAS GRAHAM of Boston, has given some illustrations of its successful employment (*Boston Medical and Surgical Journal*, Feb., 1876). The mode of procedure is manipulation of the whole body, with percussion of the back, resisting movements of the feet, legs, and thighs, in all their natural directions; this being repeated daily.

Milk Diet. A strict skim-milk diet has been found successful by Prof. TARNIER of Paris, in several cases of amenorrhea in obese young women. With the disappearance of the extra fat, the menses returned.

Baths. Sitz-baths or foot-baths, using salt water or mustard water, are often sufficient where there is suppression following exposure. The mustard should be placed in a linen bag and soaked with occasional pressure in the water, until the latter receives a greenish color. The time of the bath should be fifteen to twenty minutes. ATTHILL especially commends the *cold hip-bath.* He directs the patient to sit in a bath containing cold water, so as to cover the pelvis, the legs and feet not being immersed, but kept warm by coverings of flannel, or by a pan of hot water. The temperature of the bath should be about 60°; taken at bedtime, and for a period of from five to fifteen minutes; after which the patient should be well rubbed with a coarse towel, and put to bed. Chilliness must be obviated by a hot jar to the feet, and if there is discomfort after the bath, it should not be repeated, or used for a shorter period. This is not applicable where there is anemia, or constitutional disease.

DYSMENORRHEA.

PROF. T. GAILLARD THOMAS, M. D., OF NEW YORK.

Pursuing the classification of the forms of dysmenorrhea, given by this authority (See page 22), he recommends the following plans of treatment:

Neuralgic Dysmenorrhea. The skin should be kept warm and active by wearing flannel, and bathing. If the rheumatic or gouty diathesis is present, colchicum, guaiac or vapor baths are called for. Chlorosis, plethora, or malaria, if present, should receive attention. A sound should be occasionally introduced into the uterus. Parturition often cures it entirely. Of specific drugs, *apiol* is the most reliable (one capsule night and morning). Tincture of *cannabis indica*, gtt. xxv. every fourth hour, will relieve the pain. Where a spasmodic element exists, the following is effectual:

38. ℞. Extracti belladonnæ, gr. ¼
Butyri cocoæ, q.s.
For one vaginal suppository. Repeat every eighth hour.

Enemata of tincture of assafœtida, f.℥ij in a gill of warm water, often produce great relief in this condition.

Congestive Dysmenorrhea. If from chill and exposure, opiates, diaphoretics and sedatives will give speedy relief; if from plethora, bleeding, cathartics and low diet are required; if from a displaced uterus, as is often the case, this must be corrected. Local inflammations must receive attention before a cure can be expected.

Obstructive Dysmenorrhea. Constrictions of the cervix require enlargement, either by dilatation or incision. Sounds, tents, and dilators, are used for the first mentioned methods. Sea-tangle, sponge, etc., are materials of which tents may be composed. Obstruction from flexion or version of the uterus requires a proper pessary or operation.

Membranous Dysmenorrhea. This is relieved with difficulty. As soon as the menses begin, the patient should go to bed and apply hot water bottles to the feet, abdomen and sacrum alternately. She should then take an enema:

39. ℞.	Tinct. assafetidæ,		f.℥iij
	Tinct. belladonnæ,		gtt.xx
	Tinct. opii,		gtt.x
	Aquæ tepidæ,		f.℥iijss

Throw the whole into the rectum and retain. Instead of this, the following may be given by the mouth:

40. ℞.	Chloral hydratis,		
	Potassii bromidi,	āā	℥ij
	Morphiæ sulphatis,		gr.iss
	Syrupi aurantii corticis,		f.℥iij.

A dessertspoonful in a wineglass full of water every four hours while in pain.

Ovarian Dysmenorrhea. The most efficacious remedies are the bromides of potassium and ammonium, in full doses, commenced a week before the menstrual act, and continued until its close. A rectal suppository of gr. v. iodoform, gives great relief. Change of air and scene, warm sitz-baths, or warm vaginal injections, and general hygienic measures, are essential.

LAWSON TAIT, F. R. C. S., BIRMINGHAM.

Ovarian Dysmenorrhea. In milder cases, treatment is generally successful. First of all therapeutic remedies is *iron*, whether there are general indications for its employment or not. There can be no doubt but that many forms of this remedy exert a specific power over the sexual organs. It is best given during the intermenstrual period in small doses, liquor ferri perchloridi, gtt.j–v, well diluted, and increased suddenly to gtt. xv–xx, for a day or two previous to and during the menstrual flow; or an iron and aloes pill may be substituted for this large dose. Hot hip-baths and leeches to the perineum at the period are useful additions, with an occasional blister on the sacrun. *Marriage* is, perhaps, the most efficient remedy, and one we ought seldom to hesitate to recommend.

The last and most powerful aid is *mechanical irritation of the uterus*. The most convenient and least troublesome is the insertion of SIMPSON'S *galvanic pessary*. In a large number of cases this is beneficial; but its use should be confined to those which resist simpler measures. Its introduction may give rise during the first week to considerable discomfort, but this passes off if the patient keeps her bed for a few days. It should be retained for several months. The uterus rapidly enlarges under its action, and

the ovaries take part in this increased activity. Mr. TAIT does not share the prejudice against this instrument which some writers have manifested.

CHARLES R. DRYSDALE, M. D., OF LONDON.

This author maintains (*Obstetrical Journal of Great Britain*, Oct., 1875,) that there is too great a tendency to expect to find an evident physical cause for all painful menstruation. Spasm and neuralgia are quite sufficient to account for the vast majority of cases. Membranous shreds, also, are frequent causes of obstruction to the monthly flow. The rational treatment of dysmenorrhea commencing at an early period, consists not in the use of pessaries, or of incision of the uterus; but in the use of cold baths in the morning, with short walks in the open air afterwards; in hot baths, a few days previously to the menstrual periods; and in palliative treatment of the paroxysms by means of antispasmodics at the epoch of pain. Marriage sometimes cures such cases at once; at other times, it is of no use.

PROF. J. MATTHEWS DUNCAN, M. D., OF EDINBURGH.

This teacher strongly advocates the treatment of dysmenorrhea by mechanical means. He would not hesitate to employ it in virgins when the severity of the case was urgent. The treatment he refers to is that by bougies introduced into the cavity of the womb through the cervix. He states that it is unaccompanied by danger. The only evil result he has ever seen from it is a temporary perimetritis. It is a treatment the innocence of which arises from the fact that there is no cutting, and that the instrument is not left in the womb above a few minutes at a time. It is allowed to remain till the pangs of pain which it brings on have passed. In order to effect a cure you must go up considerably above a No. 9. You must go up so as to stretch and distend the internal os uteri; and this stretching or distention of the internal os may require you, in different cases, to reach different sizes. A No. 11 is quite sufficient in many cases; in others you will go up to a 12 or 13, rarely above that. These various numbers are not all used in one day, but in successive days, or every second or third day, and generally the whole is effected in a few sittings—say from four to eight. You are not to expect that this treatment will cure every case. By this treatment he says that most of the

characteristic cases are, if not cured, at least greatly ameliorated.

PROF. F. A. ARAN, OF PARIS.

This well-known gynecologist has highly praised the local application of opium in *neuralgias of the uterine neck*, which sometimes accompany dysmenorrhea (*Bull. de Therapeutique*, vol. lxvii). His method is as follows: Having introduced a speculum, thirty to fifty drops of Sydenham's laudanum are allowed to flow to the bottom of the vagina; sufficient powdered starch is then thrown in to form a magma with the laudanum; upon this is placed a moderately large pledget of cotton, and the whole is left in the vagina, to be renewed daily or every other day as occasion requires. He reports very great relief by this simple means.

PROF. J. B. FONNSAGRIVES, OF PARIS.

For therapeutical purposes this writer (*Traité de Therapeutique Appliquée*, 1878), divides dysmenorrhea as follows:

1. *Spasmodic Dysmenorrhea.* The flow is normal in quantity and regular, but accompanied by sharp pains, and easily interrupted. The indications are, baths and anti-spasmodics, as an enema:

41. ℞.	Powdered valerian,	ʒiii	
	Laudanum	10 drops	
	Warm water,	8 oz.	M.

For a rectal enema.

Or the valerianate of ammonia may be used in a similar manner. Hot poultices to the lower abdomen and sedative lotions to the hypogastric regions are also useful. Of internal remedies, two especially deserve mention, the *acetate of ammonia* and *castoreum*. The former should be given in doses of a fluidrachm well diluted, several times daily for several days before the period. Castoreum is especially indicated where the pains are associated with distention of the bowels and tympanites, or when the discharge is scanty and *tenesmus uteri* present. Its power is then real and positive. It may be given in pill, powder, or ethereal tincture, in doses of gr. v–xxx. Its failure is often owing to the impurity of the drug.

2. *Dysmenorrhea from general causes*, as anemia, plethora, nervous excitement, etc. As here the disturbance of the function is merely symptomatic, it should be so treated.

3. *Dysmenorrhea through insufficiency.* When the proper amount of blood has not been lost, the woman experiences general discomfort, sense of weight at the hypogastrium, hysterical symptoms, obstinate headache, and local congestions. The indication here is to supplement the menses by a moderate bleeding from the arm (f.ʒiij–vj), or by leeches.

4. *Menorrhagic Dysmenorrhea* is nearly always associated with the change of life, and will be considered under that section.

5. *Irregular Dysmenorrhea.* The quantity is normal, but the periods of return are irregular and the function painful. This is generally found either at the beginning or the close of menstrual life, or at the outset of diathetic disease. In other cases, it is proper to solicit the molimen at regular times by emmenagogues.

DR. EMIL DILLENBERGER, VIENNA.

When there is evident hyperemia of the womb, several leeches to the portio vaginalis uteri, or to the insides of the thighs, warm soft poultices, or injections of lukewarm water, are very beneficial. When the dysmenorrhea is of nervous origin, some advantage is derived from the application of warmth, warm baths, mustard poultices, or dry cuppings applied to the loins and thighs, and internally from narcotics, especially opium.

42. ℞. Pulveris opii, gr.j
Sacchari albi, ʒj
Olei menthæ piperitæ, gtt.ij. M.
Divide into six powders. Take one every two to four hours.

Or,

43. ℞. Tincturæ opii, ♏xxx
Infusi anthemidis, f.ʒiv
Aquæ menthæ piperitæ,
Syrupi simplicis, āā f.ʒss. M.
One to two tablespoonfuls every one or two hours.

PROF. THEODORE JEWETT, M. D., BOWDOIN MEDICAL COLLEGE.

44. ℞. Camphoræ, ʒijss
Extracti belladonnæ,
Quiniæ sulphatis, āā ʒss
Pulveris acaciæ, q. s. M.
For eighty pills. One to be taken every four hours until relieved.

45. ℞. Extracti scutellariæ fluidi,
Decocti aloës compositi, āā f.℥ss. M.
A dessertspoonful every two or three hours until relieved.

Dr. C. W. FRISBIE, of East Springfield, N. Y., writes that he used the above formula in his practice many times, and, when the cases had been properly selected, with the most happy results.

DR. A. DESPREZ, SURGEON TO THE LOURCINE HOSPITAL, PARIS.

In dysmenorrhea, warm water occasions congestion of the uterus, and the congestion is followed by a return of the menses, and consequently by a marked alleviation.

Injections of warm water act like the cataplasms and warm lotions, which are so usefully employed in inflammation of the integument.

The injections of warm water are practiced at the hospital with irrigators, of which the jet is not very strong. The water used should be of 95° to 104° Fah., and it is renewed two, four, or six times in a day. This therapeutic means is convenient, and not repugnant to the patient.

DR. LISFRANC, PARIS.

46. ℞. Vini opii, gtt.x–xx
Camphoræ, gr.ij–ivss
Decocti althææ, f.℥ijss
Vitel. ovi, ℥ijss. M.
For an enema, to be given nearly cold, at bed-time, to relieve the pain of menstruation. Hot fomentations on the abdomen.

47. ℞. Assafetidæ, ℥j
Vini opii, ♏xv
Extracti valerianæ, ℥ss
Decocti althææ, f.℥iijss
Vitel. ovi, ℥v. M.
An enema, in hysterical dysmenorrhea.

HENRY HARTSHORNE, M. D., OF PHILADELPHIA.

Whatever be the cause of dysmenorrhea in any case, the subject of it should always avoid being much on her feet for a day or two before her monthly time; and should go to bed when the pain begins. Cloths wrung out of hot water, or whisky and water, may be placed on the abdomen and renewed as they cool. Internally the following may be given:

48. ℞.	Spiritûs camphoræ,	f.℥j	
	Tinct. opii camphoratæ,	f.℥ij	
	Tinct. zingiberis,	f.℥ss	
	Tinct. lavand. compos.,	f.℥ss	
	Aquam,	ad f.℥ij.	M.

Take a dessertspoonful every hour or two.

Large vaginal injections of hot water, and dilatation of the os and cervix, are other useful measures. No medicine appears to exert a prophylactic effect, unless it is iron in cases of anemia.

PROF. N. S. DAVIS, M. D., OF CHICAGO.

Rheumatic Dysmenorrhea. This practitioner has called attention (*American Practitioner*, October, 1877), to a numerous class of cases of dysmenorrhea from chronic rheumatic irritation:

First, the patient should wear constantly good warm underclothes of flannel, eat plain, easily-digested food, drink no kind of stimulating drink, and take a full, warm alkaline bath twice a week. On getting out of the bath the water should be wiped off quickly, and the whole surface briskly rubbed with dry flannel, which brings a pleasant feeling of warmth and elasticity.

Second, medicines should be prescribed on the same principles as we would for chronic rheumatic irritation in any other structure of the body. Whatever medicines are given, however, must be continued faithfully from two to four months, during the *interval* between each menstrual period.

Treatment during the menstrual week can have no effect beyond palliating the suffering of the patient temporarily. To become curative it must be extended through the interval, for the purpose of so changing the condition of the uterine structure and sensibility as to prevent the recurrence of the pain at the next period.

In the most common class of cases, in which the pain is severe and the flow scanty, Dr. DAVIS has for many years used successfully the following formula:

49. ℞.	Tinct. cimicifugæ,	f.℥iij	
	Tinct. stramonii,	f.℥ss	
	Vin. colchici rad.,	f.℥ss.	M.

Take one drachm at each meal time in water.

If, by long continuance or unusual susceptibility, the cimicifuga causes dull headache, as is sometimes the case, either the dose should be lessened, or the fluid extract of *cypripedium* may be

substituted in its place. In the same manner, if the colchicum should cause disturbance of the bowels, its quantity must be lessened in proportion to the other constituents.

Another prescription with which he has succeeded in many instances, especially when the pain and soreness extended to the region of the ovaries, is as follows:

50. ℞.	Ammoniæ hydrochlor.,		ʒiij	
	Tinct. stramonii,		f.ʒss	
	Tinct cimicifugæ rac.,		f.ʒiss	
	Syr. glycyrrhizæ,		f.ʒij.	M.

Teaspoonful three times a day.

Another useful prescription is:

51. ℞.	Acidi salicylici,		ʒiij	
	Sodii bicarbonatis,		ʒij	
	Tinct. stramonii,			
	Vini colchici radicis,	āā	f.ʒiv	
	Glycerinæ,		f.ʒj	
	Aquæ,		f.ʒiij.	M.

Teaspoonful four times a day in water.

In connection with their medical treatment, Dr. DAVIS instructs his patients to place themselves in the "knee and chest" position for a few minutes three times a day. The hips are high, the knees and chest low, thus throwing the uterus by the force of gravity into its natural position. Any form of pessary only adds to the sufferings of these patients.

DR. JULIAN S. WOODRUFF, OF SOUTH CAROLINA.

To meet the severe pain which occurs in some of these cases of dysmenorrhea, this writer states, when morphine and atropine are combined in solution and injected under the skin for the relief of the suffering, their instantaneous effects are truly wonderful and charming. An injection of this combination subcutaneously has in *three minutes* extinguished all pain, the patient straightening out and laughing and talking.

DR. HENRY E. WOODBURY, OF WASHINGTON.

The treatment of this practitioner (*Va. Med. Monthly*, Sept. 1878), is to introduce a very small tent of elm bark into the cervix about a week before the menstrual flow commences. After introducing the tent, a plug of cotton, to which a cord is attached, is passed through the speculum to keep the tent *in situ*. The plug

is then saturated with carbolic acid and olive-oil, or glycerine, in the proportion of 1 to 7. By means of the cords attached to the tent and plug, the patient removes them next morning, and uses an enema of water and Castile soap. In an obstinate case, a tent is used every day up to the time at which the flow should commence, unless it is established sooner, substituting larger and larger ones as the cervical cavity becomes dilated. As soon as the tent, on removal, is found to be freely stained with blood, its use is suspended until a week before the next period.

The remedies administered internally are concentrated tincture of *helonias*, fluid extract of *ergot*, tincture of *gelsemium;* or syrup of the iodide of iron. The patient commences to take one of these three weeks before the regular date of her flow, and continues it till this is fully established. She then suspends it for a week or ten days, after which she resumes it. Sometimes better results are obtained by using two of the above-mentioned remedies alternately, as the helonias and the iron, or the ergot and iron. A gentle current of electricity is passed through the uterus once a day for two or three days before the period. This treatment has been successfully employed in cases of dysmenorrhea due to subacute inflammation or displacement resulting in the constriction or occlusion of the cervix.

DR. JOHN WILLIAMS, OF ENGLAND.

Membranous Dysmenorrhea. This writer (*Obstetrical Transactions*, 1877), is of opinion that the inflammation of the internal surface of the uterus, often found in these cases, is the result, not the cause, of the membranes, but is the result of the membranous dysmenorrhea. He does not believe they are the results of abortion, as they frequently occur in virgins. The source of mischief must be looked for in the walls of the uterus itself. The membrane is the decidua ordinarily shed as *debris* at menstruation. Dr. WILLIAMS thinks there is something wrong in the uterus from puberty; in fact, imperfect evolution. As regards treatment, everything should be done to favor the physical development of the young girl. Once the condition is established, the only means whereby a cure is likely to be effected is electricity, either in the form of the continuous current, or by a galvanic stem.

RÉSUMÉ OF REMEDIES.

**Ammoniæ Acetatis Liquor.* In painful menstruation, f.℥j doses of this preparation of ammonia, given every hour when the pains come on, will often be found to lessen or wholly dissipate them. BARNES recommends:

52.	℞.	Spiritus ætheris comp.,	f.℥ss	
		Liq. ammon. acetat.,	gtt. xv.	M.

For one dose several times daily.

Ammoniæ Murias. The following is highly recommended by Dr. O. WARD, of Tennessee, in the painful dysmenorrhea of the climacteric period:

53.	℞.	Ammoniæ muriatis,	℥ij	
		Extracti glycyrrhizæ,	ʒss	
		Aquæ,	f.℥vj.	M.

A dessertspoonful three times a day.

Amyl Nitrite has been found of great benefit in spasmodic dysmenorrhea by Dr. MARY PUTNAM JACOBI, especially when supported by belladonna, commenced previous to the beginning of menstruation (*New York Medical Record*, Jan. 2, 1875); or it may be given in one-drop doses in peppermint water every half hour (SELL).

Apiol, in the hands of Dr. TILT, of London, acts like a charm when given in doses of four grains, so soon as the pains of dysmenorrhea begin. It of is little use, however, when the dysmenorrhea depends upon disease of the uterus.

**Belladonna.* In neuralgic dysmenorrhea, Dr. ANSTIE, of London, recommends (*British Medical Journal*, August 22, 1868,) the extract, as a palliative, in doses of gr. $\frac{1}{6}$. He obtained still better results from the hypodermic injection of the sulphate of atropia, in doses of gr. $\frac{1}{120}$ – $\frac{1}{60}$, twice a day, and continued for several weeks, at once reducing the quantity when marked dryness of the throat appeared. In constitutions very intolerant of belladonna in any form, the acetate of morphia may be advantageously substituted for the atropia. A belladonna plaster to the sacrum is often of benefit; so also is a suppository of extract of belladonna.

Brominium acts efficiently, according to BARNES, in ovarian dysmenorrhea.

Camphor. Dr. DEWEES regards camphor as a very certain and uniform palliative, in doses of gr. x, every one or two hours, until relief be obtained. Or the following injection may be given:

54.	℞.	Camphoræ,	ʒss–j	
		Tincturæ opii,	f.℥j	
		Mucilaginis,	q. s.	M.

For an enema.

Camphor liniment, or ointment, well rubbed into the loins, also affords relief.

Cannabis Indica is sometimes a useful remedy.

Cimicifuga. The eclectic practitioners speak of this as a most efficient remedy in dysmenorrhea, and temporary suppression from cold, or where there is a rheumatic diathesis. PHILLIPS endorses this statement from his own experience (*Mat. Med.*, 1879). (F. 49.)

Colchicum is useful in dysmenorrhea connected with a tendency to gout or rheumatism. It should be given with blue pill every other night; flannel at the same time should be worn, and exposure to cold avoided. (F. 48.)

Cocculus Indicus. In thin and nervous females, where the discharge is scanty, and preceded by paroxysmal griping pains, Dr. C. D. F. PHILLIPS (*Mat. Med. and Ther.*, 1879), states that the administration of cocculus, commenced a few days before the period, will frequently ward off the pains and render the discharge natural. The dose is ♏ij–x, of a tincture 1–8.

**Ferri Chloridi Tinctura* and *Ferri Vinum* are both excellent preparations in ovarian atonic dysmenorrhea. Sir CHARLES LOCOCK recommends the following formula:

55. ℞. Vini ferri,
Spiritus ætheris sulphurici compositi, āā f.℥j
Mixturæ camphoræ, f.℥vj. M.
Take one-fourth part every six hours.

Crocus Sativus. The saffron is much employed by French practitioners in dysmenorrhea, both as infusion and tincture, and also locally. The following "cataplasme antispasmodique" is highly recommended in painful cases:

56. ℞. Croci contusi, ℥iij
Pulv. camphoræ,
Opii pulveris, āā ℥j
Lini, ℥viij
Aquæ ferv, q. s.
Mix the saffron and opium with a little water, and then stir this and the camphor into the poultice and lay it warm upon the painful uterus. It is especially grateful in "uterine colic," or "uterine rheumatism."

Gossypium. Dr. L. ALEXANDER, of Penna., has found much benefit in the following:

57. ℞. Extracti gossypii fluidi, f.℥ij
Extracti ergotæ fluidi,
Tinct. hellebori nigri, āā f.℥j. M.
Teaspoonful every three hours, commencing two or three days before the expected attack.

**Guaiacum* is often productive of the greatest benefit. The *tinctura guaiaci ammoniatæ* is especially serviceable. In ovarian and

rheumatic forms, it deserves to be called a specific. In chronic cases, it should be accompanied by the iodide of potassium.

Oleum Terebinthinæ, in doses of gtt.xx, thrice daily, with warm baths, is recommended in membranous dysmenorrhea by TROUSSEAU.

**Opium.* Opiates are often best exhibited in the form of enemata. Dr. E. J. TILT, of London, recommends a hot linseed-meal poultice, sprinkled with laudanum, to be applied to the hypogastrium. A single hypodermic injection of morphia, when the pain is habitually severe, will often be sufficient at each menstrual period.

**Potassii Bromidum.* This sedative is especially valuable in neuralgic, ovarian and membranous dysmenorrhea. It should be given in large doses, prior to the commencement of the period.

Potassii Nitras has been found highly serviceable, in doses of gr. xv–xx, well diluted with barley water.

Sinapis. Dr. ASHWELL recommends the mustard hip-bath, to be repeated three or four times a day, the patient remaining in it for from thirty to sixty minutes, or even, if the pain be very severe, until faintness is induced.

Sodii Biboras is of advantage combined with extract of belladonna.

Stramonium is said to be of marked benefit in the severe form of the disease.

Taraxacum. A half teaspoonful of the extract in a little warm milk every night proves useful, by keeping up a healthy action of liver and skin.

Veratria. Mild veratria ointment, rubbed over the hypogastric region twice a day, greatly relieves the pain.

Viburnum Prunifolium affords often great relief if taken for a few days before the menses appear. Dr. E. W. JENKS (*Trans. of the Amer. Gyn. Soc*, 1876), states that in all forms of dysmenorrhea attended with profuse menstruation it is of much value, but where the flow is scanty, it does not prove beneficial. It is not sufficiently sedative, if given alone, freely to relieve the sufferings of spasmodic or neuralgic dysmenorrhea; but it is a valuable adjunct to sedative and antispasmodic remedies. The dose is f.3ss–j of the fluid extract, three or four times a day.

MECHANICAL REMEDIES.

Galvanism. Dr WM. B. NEFTEL (New York *Medical Record*, Oct. 6, 1877), gives notes of the cure of two cases of aggravated dysmenorrhea of long standing, which had been treated thoroughly but unsuccessfully, by some leading gynecologists, but which readily yielded to treatment by the galvanic current. He believes that dysmenorrhea is essentially of nervous origin (a visceral neuralgia), though it is frequently accompanied by structural or mechanical derangements of the womb; and that these derangements are frequently the consequences of the nervous affection rather than the cause thereof.

His treatment is as follows: A constant current of consid-

ter, discovered by BUDGE in the spinal cord (situated somewhat erable intensity is directed chiefly towards the genito-spinal cenabove the lumbar enlargement), and a current of moderate intensity toward the medulla oblongata. No local treatment of the womb is resorted to.

Rapid Dilatation of the canal of the neck of the uterus in painful menstruation resulting from a narrow and restricted condition of the uterine canal, has been very successfully applied by Dr. ELLWOOD WILSON, of Philadelphia (*American Gynecological Transactions*, 1877). This he accomplishes by means of an instrument designed for the purpose.

MENORRHAGIA AND METRORRHAGIA.

PROF. ROBERT BARNES, OF LONDON,

Says in all cases of hemorrhage from the uterus, obtain and maintain a patulous condition of the cervical canal. This, of itself, often arrests the bleeding. Remove everything in the shape of a foreign body, as clots, retained ova, membranes, or placenta. To do this, one or two fingers may be passed in to break them up. Hemostatics may be introduced by means of a swab of cotton wool, twisted on a roughened probe; or where, by reason of the narrowness of the canal, this is impracticable, injections or solid styptics may be used. The best way is by inserting small bits of sponge in a tube made like the uterine ointment positor, and saturating this with the styptic. The tube is then passed into the uterus, and pressure of the piston squeezes out the fluid, drop by drop, upon the bleeding surface. This failing, the styptic must be injected boldly.

In *passive hemorrhage*, the general vascular tension, the increased action of the heart, and the determination of blood to the pelvic organs, must be moderated. The most useful agents here are digitalis, aconite, bromide of ammonium or potassium, sometimes opium, ipecacuanha, chloral, salines, as acetate of ammonia, nitrate of potassa. Cold is often useful. Ice in the vagina or cold water injections should always be tried early.

Position is important; keep the pelvis above the level of the body.

Saline purgatives especially operate with advantage. Internally, the most useful are turpentine in capsules, ergot in fluid extract or powder, or ergotine, tincture of hamamelis in five or ten drop doses every three or four hours, quinia, strychnia, sulphuric or phosphoric acid, tannic or gallic acid, acetate of lead, the vinca major, Indian hemp, ipecacuanha. All failing, styptics locally must be used. The after-treatment does not at first require iron; this only adds fuel to the fire; the system requires, first, salines, these serve better to replenish the exhausted circulating fluid. They subdue vascular excitement, allay fever, calm nervous irritability, improve the secretions, and prepare the way for iron and other tonics. The

best form of saline is the freshly prepared acetate of ammonia; to this may be added a sedative, as Battley's solution, and sometimes digitalis or aconite. Later, hamamelis, ergot, quinine, mineral acids, and a decoction of bark, and later still, iron. The best forms are the citrate, acetate or chloroxide in an effervescent form, or the dialyzed iron, at first in small doses to feel the way. Sleep is of signal service, opium with the saline, or as the compound opium pill in five-grain doses, or as pulv. ipecac. comp., ten grains. If not well borne, we have a precious resource in chloral, in scruple doses.

PROFESSOR T. GAILLARD THOMAS, NEW YORK.

This author says that in cases of menorrhagia the patient should be kept perfectly quiet upon her back; cloths wrung out of cold water should be laid over the uterus, vulva and thighs; cold acidulated drinks should be given freely; and the injection of all warm fluids strictly interdicted. In addition, the apartment should be kept cool, the nervous system quieted by opium or an appropriate substitute, and all conversation prohibited. In mild cases this may suffice, but in severe ones it will not. Then the speculum should be introduced, a sponge-tent passed into the cervix, and the vagina filled with a tampon. This will rarely fail. But in certain cases, as, for instance, those of cancer of the neck, the tent will not be admissible. Under these circumstances, a soft sponge or wad of cotton should be saturated with a solution of persulphate of iron, laid upon the cervix, and the tampon placed against it; or a small linen bag may be filled with powdered alum, placed in contact with the cervix, and held in place by a tampon; or two drachms of tannin may be left free against the part. To these means almost all cases will temporarily yield, more especially if the use of the tent is admissible.

Where the menorrhagia is due to a fungous degeneration of the intra-uterine membrane, the *curette* is a most valuable resource; or the lining membrane of the uterus may be modified by energetic agents, as nitric acid, tincture of iodine, nitrate of silver, etc.

In very obstinate cases, change of climate will often prove of decided benefit.

PROF. ROBERTS BARTHOLOW, M. D., PHILADELPHIA.

When menorrhagia is the result of impoverished state of the blood, iron is the most appropriative medicament. It may be combined with arsenic.

Gallic acid is very effective, as in the following formula:

58. ℞. Acidi gallici, ʒss
Acid. sulphur. dil., f.ʒj
Tinct. opii deod., f.ʒj
Infus. rosæ comp., f.ℨiv. M.
A tablespoonful every four hours, or oftener.

When there is a large spongy uterus, ergot is indicated. When caused by ovarian excitement, bromide of potassium will promptly relieve.

Ipecacuanha possesses very valuable anti-hemorrhagic powers; it should be frequently repeated.

59. ℞. Ext. ipecac. fluidi, f.ʒij
Ext. ergotæ fluidi, f.ʒiv
Ext. digitalis fluidi, f.ʒij. M.
Thirty minims to a teaspoonful at a dose, as required.

In debilitated and relaxed subjects, menorrhagia may be relieved by determining an afflux of blood to the uterine system. Iron and aloes may be here associated. But the latter would be contra-indicated where there already existed congestion of the pelvic viscera.

EDWARD JOHN TILT, M. D., LONDON.

This writer lays much stress on the importance, in severe cases, of placing the head on a level with the body. Sedatives are always beneficial. The bromide of potassium or of ammonium has been known to check the tendency to menorrhagia.

In many cases, damaging blood loss may be checked by the exhibition of full doses of the liquid extract of ergot and the tincture of digitalis, f.ʒss three times a day, as:

60. ℞. Tincturæ digitalis,
Extracti ergotæ fluidi, āā f.ʒiij
Aquæ destillatæ, ad f.ℨvi. M.
The sixth part to be taken three times a day for three days.

While giving these remedies, a two grain opium suppository should be passed into the rectum once a day, even if there be no

pelvic pain, for opium has often helped to quell blood-flow. In any case, it is well to commence with small doses of ergot and digitalis a few days before the menstrual period is due.

PROF. GRAILY HEWITT, M. D., LONDON.

The treatment must of course in all cases have reference to the exciting cause of the profuse flow. Flexion or congestion of the uterus is frequently present. It must receive attention.

The external employment of *baths* is of the greatest service, especially cold hip-baths and sponge-baths. Cold to the spine, by means of ice-bags, has proved of service. Injections of cold or iced water into the rectum is a valuable means of arresting the flow of blood in bad cases.

Dr. HEWITT believes that styptics taken internally are frequently found very serviceable; of them, he considers the most efficient to be matico in combination with tincture of iron, or the latter alone in large doses, ℥xxx–xl. Opium has been highly extolled, but does not appear to be adapted for chronic cases.

Where the discharge is exhausting, stimulants and nourishment should be freely administered in small quantities at frequent intervals.

PROF. WILLIAM H. BYFORD, M. D., OF CHICAGO.

This practitioner, in the *Transactions of the International Medical Congress*, 1876, discusses in considerable detail the treatment of metrorrhagia.

In the palliative treatment, isolation, quietude, and recumbency, are very important cautions to be enjoined. Plain food, cool clothing, and general hygienic rules, are indispensable. In regard to drugs, Dr. B. has derived considerable advantage from astringents proper. The most generally applicable agent is *ergot;* but it will usually fail when the flow is venous, as in retroversion, pelvic infraction, tumors, etc. When there is much pain in the pelvis, and a dry state of the skin, opium and ipecacuanha are very serviceable. When vascular and nervous excitement is prominent, lobelia, gelsemium, digitalis, aconite, and veratrum viride, are all of use.

These measures failing, we must resort to either mechanical or chemical means. The former is represented by the tampon; the latter by powerful hemostatics. They may be all advantageously

combined, as in the plan proposed by Dr. MARION SIMS. His hemostatic is—

61.	℞.	Liquoris ferri subsulphatis,	f.℥ss	
		Aquæ,	f.℥j.	M.

The finest cotton wool is saturated with this, and then submitted to moderate pressure and dried for use. Its application is made by wrapping a sufficient quantity around a long, small piece of whalebone, and introducing it into the cavity of the uterus, when the cotton is detached and left there. If the hemorrhage is moderate, one such piece will suffice; if severe, it will be necessary to stuff the uterine cavity full. Strong thread can be attached to the cotton to withdraw it when necessary. From twelve to twenty-four hours is as long as it should remain.

In the intermenstrual period, curative measures should be resorted to, as alteratives, tonics and derivatives. *Muriate of ammonia* will be found especially valuable. When debility is present, among the very best remedies is—

62.	℞.	Hydrargyri chloridi corrosivi,	gr. $\frac{1}{10}$–$\frac{1}{12}$	
		Tinct. cinchonæ compositi,	f.℥j.	M.

This amount thrice daily.

Iodine, iodide of potassium, and iodide of iron, are also efficient. A beneficial derivative measure is dry cups over the sacrum often repeated. The cups should be large, and allowed to remain for an hour or more.

M. PANAS, M. D., OF PARIS.

Among the various manipulative measures used in severe metrorrhagia, preference is given by this writer to plugging the cavity of the neck of the womb, which has several advantages over plugging the vagina in such cases. It stops the blood more effectually, the patients bear it better, and there is less chance of putrid absorption. The plan adopted by M. PANAS consists of introducing into the cavity of the uterine neck a pledget of cotton wool, rolled up to about the thickness of a goose-quill, and steeped in a solution of the perchloride of iron of the French *Codex*, to which is added one part of water, to prevent its caustic effects.

This being done, he introduces a ball of cotton wool and places it in the posterior *cul-de-sac* of the vagina, where it not only forms a support to the uterine plug, but it absorbs any liquid that may

escape through it, and thus protects part of the vagina (which is covered with the peritoneum) from the corroding effects of the perchloride of iron and the acrid discharges from the womb.

DR. EMIL DILLENBERGER, VIENNA.

The treatment of menorrhagia according to the Vienna school comprises rest, horizontal position with the pelvis elevated, low diet, and cooling drinks, such as:

63. ℞. Acidi tartarici, gr.x–xxij
Syrupi aurantii floris, f.℥vj
Aquæ, f.℥xv. M.
For drinking.

64. ℞. Tamarindi, ℥j
Fiat decoctum libræ unius,
(Acidi sulphurici aromatici, f.℥j–ij)
Syrupi rubri, f.℥ss–j. M.
For drinking.

65. ℞. Acidi sulphurici aromatici, f.℥ij
Syrupri rubri, f.℥j. M.
One to two teaspoonfuls in a glass of water as a drink.

These directions and prescriptions, together with pure air, only moderately warmed, in the room, are some of the most important points which alone will often restrain rather free bleeding.

When there is *passive hemorrhage*, use cold dressings, injections of cold water, or the following astringents:

66. ℞. Aluminis, ℥ij–ivss
Aquæ, f.℥iv. M.
For vaginal injections.

67. ℞. Acidi tannici, ℥ss–iv
Aquæ, f.℥xv. M.
For vaginal injections.

68. ℞. Zinci sulphatis, gr.x–xxxiv
Aquæ, Oj. M.
For vaginal injections.

69. ℞. Catechu, ℥ij
Aquæ, f.℥xv. M.
For vaginal injections.

70. ℞. Extracti krameriæ, ℥ij
Aquæ, f.℥xv. M.
For vaginal injections.

Plugging the vagina is also an effectual remedy.

Among internal remedies, those that have generally shown themselves the best are:

71. ℞. Ferri chloridi, gr.xvj
Tincturæ opii, gtt.x
Syrupi tolutani, f.℥ij
Aquæ, f.℥vj. M.
A tablespoonful every one to two hours.

72. ℞. Pulveris ergotæ,
Sacchari albi, āā gr.xxxiv
Olei cinnamomi, gt.j. M.
Divide into six doses. One powder every five minutes.

73. ℞. Extracti ergotæ fluidi, ♏xx–xl
Syrupi acaciæ, f.℥ij
Syrupi aurantii florum, f.℥ss
Aquæ, f.℥iij. M.
One tablespoonful four times a day.

74. ℞. Extracti krameriæ, gr.vj–xx
Aluminis,
Sacchari albi, āā gr.xxij
Olei cinnamomi, gt.j. M.
Divide into six powders. One powder every two to five hours.

75. ℞. Aluminis, gr.xxxij
Tincturæ cinnamomi, f.℥ij
Syrupi aurantii corticis, f.℥ss
Aquæ cinnamomi, f.℥iv. M.
One tablespoonful hourly.

RÉSUMÉ OF REMEDIES.

Achillea Millefólium, the yarrow, has beneficial properties where the excessive flow depends on atony of the organs.

Acida. The mineral acids internally have been familiar to the profession for many years as remedies for excessive flowing, but their efficacy has been doubted of late years. (See F. 58, 65).

Alumen often proves successful in controlling the hemorrhage. Dr. E. J. TILT, of London, says that in uterine hemorrhage, alum, in solution with sulphuric acid, is the first remedy to try.

Ammonii Bromidum. In cases of *too frequent menstruation*, not specially connected with menorrhagia, but rather with abnormal activity of the genital system, Dr. J. R. BLACK, of Ohio, has found decided benefit from this drug, gr. x, four times daily, beginning at least a week before the expected molimen (*Half Yearly Compendium*, July, 1879).

Argenti Oxidum is an efficient remedy in menorrhagia. More than three grains daily should not be given.

Arseniosum Acidum. Fowler's solution is said to check uterine hemor-

rhage, given at first in the dose of ♏x–xx, and repeated in ♏x doses every twenty minutes until the discharge ceases. This remedy must not, of course, be pushed too far.

Berberiæ Sulphas. Dr. R. H. ANDREWS, of Pennsylvania (*Trans. of the Pa. State Med. Soc.*, 1877), reports very satisfactory results with this drug in cases of profuse exhausting menstruation. He prescribed the remedy as follows:

76. ℞. Berberiæ sulphatis, ℈j
Sacchar. albi, ʒiss.
Make 12 powders.

One of these powders is directed to be taken when the flow is very free, or if not free, in three or four days after the menses have appeared; repeated in four or eight hours, according to indications. The effects of such an administration of the remedy are, a cessation of the profuse flow, diminution in the length of the period, and in a measure curative of the disease.

Borax is employed by some practitioners. (See under *Ergota*).

**Cannabis Indica.* Dr. CHURCHILL, of Dublin, obtains from the tincture of Indian hemp, in doses of gtt. v–x, thrice daily, remarkable success in the treatment of menorrhagia and uterine hemorrhage. Dr. THOMAS, of New York, pronounces it one of the best agents in this disease at our command.

Catechu may be used in passive hemorrhage. (F. 69).

Cimicifuga. Dr. RINGER, of London, says this remedy will certainly arrest menorrhagia, though he regards it as inferior in this affection to the bromide of potassium

Cinnamomum is a grateful stomachic, and nearly always of value in uterine hemorrhages. It may be given as tincture or in the powder, ℈j. at a dose.

Digitalis is useful in menorrhagia and other forms of uterine hemorrhage, unconnected with organic disease. Dr. E. J. TILT, of London, employs the following:

77. ℞. Tincturæ digitalis, f.ʒij
Acidi hydrocyanici diluti, ♏xxx
Morphiæ acetatis, gr.j
Aquam, ad f.ℨvj. M.
A dessertspoonful every two or three hours.

DR. W. H. DICKINSON recommended the infusion ʒj–iss.

**Ergota*, though not equally beneficial in all cases, is a useful remedy in menorrhagia. Dr. WARING-CURRAN states (*Medical Press*, Nov. 17, 1869), that it proves most useful in that form of menorrhagia which occurs in women of a scrofulous habit, who suffer from constipated debility, and in whom leucorrhœa exists as a consequence of previous hemorrhage. He gives freshly prepared infusion of ergot and borax in menorrhagia from obstructive cardiac disease, in that associated with a diseased portal

system, in that consequent upon a scorbutic state of the system, and in genuine menorrhagia (*i. e.*, an increase of the catamenia, continuing for a lengthened period, and returning before the proper period, without organic lesion). He finds it has little or no effect in menorrhagia dependent upon ulceration of the os, the presence of polypous growths or other tumors, or in that arising from retroflexion of the uterus. Ergotin, subcutaneously, should not be neglected. ATTHILL prescribes it in the form of infusion, and if symptoms of ovarian irritation exist adds bromide of potassium in full doses. If anemic, ten drops of tincture of iron with three to five drops of solution of strychnia to each dose of ergot. The strychnia increases in a marked degree the action of the ergot.

Ferrum. The preparations of iron should be given when there is defective assimilation and nutrition. Butmust not be exhibited in a routine manner. There are cases of menorrhagia associated with pallor and debility, where the usual compound of iron and extract of ergot is not so useful as a non-chalybeate treatment. In these cases it is not any imperfection in the process of blood manufacture which is to be remedied, for the blood is made rapidly and quickly, only to be lost at each menstrual period. It is here desirable rather to limit the rapidity of the blood formation, so that when the severe vascular turgescence of the menstrual period comes, it will not find the blood vessels too distended with blood. This will lead to diminished catamenial loss, and so the blood-waste will be economized.

**Gallicum Acidum* was much employed by the late Sir J. Y. SIMPSON, of Edinburgh, in atonic menorrhagia. He gave it in doses of gr. x, xv or xx daily, and continued its use during the intervals, as well as the period of discharge. Dr. E. J. TILT, of London, while testifying to its value as an astringent in many cases, finds that it often fails when the hemorrhage depends upon organic lesions. Dr. WILLIAM GOODELL gives it in doses of gr. xx–xxx every two hours, in syrup or molasses. Dr. T. H. TANNER prescribes:

78. ℞. Acidi gallici, gr.xv–xxv
Acidi sulphurici aromatici, ♏xv–xx
Tincturæ cinnamomi, f.℥ij
Aquam destillatam, q. s. ad f.℥ss. M.

For one dose. Mix with two or three tablespoonfuls of water, and take every few hours, in profuse menorrhagia, until the bleeding ceases.

Dr. ATTHILL gives it with ergot, ten grains of each.

Hamamelis has been recommended, in doses of a few drops of the fluid extract. Its virtues are questionable.

**Ipecacuanha*, in full emetic doses, is often productive of the best results. Under the use of gr. xx of the powdered root, in the evening, followed by an acidulated draught in the morning, the discharge frequently ceases in twenty-four hours; if a relapse occurs, a

repetition of the emetic seldom fails to make the cure permanent. Dr. TYLER SMITH thus explains its action in these cases; by its emetic power, it excites contraction of the abdominal muscles and compression of the uterus, which may, in turn, re-excite some amount of uterine reflex action; but beyond this, it appears to have a special action upon the uterus, increasing its contractile power beyond what could be imagined to occur from the merely secondary effects of vomiting. Ipecacuanha thus appears to influence the medulla oblongata and the lower medulla spinalis. This double action upon the extremities of the spinal centre is very extraordinary.

Krameria is particularly useful in menorrhagia occurring about the usual time of the cessation of the menses. Dr. DEWEES employed the following formula:

79.	℞.	Extracti krameriæ,	ʒij	
		Pulveris rhei,	ʒss	
		Syrupi,	q. s.	M.

Divide into forty pills, and order two thrice daily.

Magnesiæ Sulphas is recommended by Dr. GRAILLY HEWITT, of London, who found a mixture containing very small doses of this salt, with a little dilute sulphuric acid and syrup, very useful during the time of the catamenial flow.

Matico. The pounded leaves, made into a paste and introduced into the vagina, are said to arrest the hemorrhage, after the failure of a strong solution of nitrate of silver.

Plumbi Acetas often succeeds in severe cases, when given in enema:

80.	℞.	Plumbi acetatis,	gr. xv–xx	
		Tincturæ opii,	♏xl	
		Mucilaginis,	f.ʒij.	M.

For enema.

In mild cases, the internal administration of sugar of lead and opium is usually successful. Dr. WORKMAN, of Canada, gives it in doses of gr. xxx, repeatedly.

**Potassii Bromidum* is a favorite remedy of Dr. RINGER, of London, who lays down the following rules for its administration in menorrhagia: If the loss of blood occurs only at the natural menstrual period, it will be sufficient to begin the medicine about a week before the discharge is expected; and when this has for a time ceased, it should be discontinued till the next attack is about to begin. If, on the other hand, the loss of blood occurs every fortnight, or oftener, it should be given without any intermission, till the disease is well controlled; and when the discharge has been brought to its right period and amount, a few doses should be given for a short time before each monthly period. It has less control over uterine hemorrhage due to tumors of the uterus than ergot and other remedies. In *ovarian menorrhagia*, indicated by tenderness of the ovaries, Dr. ALFRED MEADOWS

has found no drug which possesses so great power as the bromide:

81. ℞. Potassii bromidi, gr.xxx
Syrupi ferri bromidi, ʒj. M.

This amount in water thrice daily. Locally a pessary containing conia, gr.j, atropia, gr. $\frac{1}{75}$, in the vagina every night. (*British Medical Journal*, July 12, 1879.)

Quiniæ Sulphas. In malarious districts, full doses of quiniæ are often the only remedial means efficient or required in this form of hemorrhage. Dr. BARNES always uses it in hemorrhage from sub-involution.

Sulphuricum Acidum Dilutum is a favorite remedy with some.

Savina. PHILLIPS has derived great benefit from gtt.v–x of the tincture, in a tablespoonful of cold water every half hour, in menorrhagia. ARAN considers it one of the most valuable agents in hemorrhage from an atonic condition of the uterus.

**Tannicum Acidum*, alone or combined with a small portion of dilute nitric acid, has often the happiest effects. Dr. ROBERT BURNS, of Phila., employs:

82. ℞. Acidi tannici,
Zinci sulphatis, āā ʒj
Glycerinæ, f.ʒj. M.

Wet cotton with this, and apply to the interior of the uterus.

Terebinthinæ Oleum. A prescription recommended by Dr. E. J. TILT, is:

83. ℞. Olei terebinthinæ, f.ʒss
Tincturæ capsici, f.ʒss
Tincturæ ergotæ, f.ʒj
Tincturæ lavandulæ compositæ, f.ʒij. M.

In cases of uterine hemorrhage, give from half a drachm to a drachm of this mixture in milk, after shaking the bottle. In severe flooding after parturition, from half an ounce to an ounce may be given in plenty of milk, with good results

Urtica. The nettle in infusion is a popular remedy.

Viburnum Prunifolium is peculiarly applicable in menorrhagia depending wholly upon systemic causes, as phthisis, diseases of the heart or liver, malaria, etc. It is also beneficial in that occurring at the menopause.

Viscum Album. The mistletoe has been recently commended in menorrhagia by some observers.

Zinci Oxidum is highly spoken of by Prof. A. R. SIMPSON, of Edinburgh, in doses of gr ij thrice daily.

Zinci Sulphas, in doses of gr. j–ij in pills, thrice daily, is often useful in the atonic forms of menorrhagia.

VAGINAL INJECTIONS.

Alumen. Dr. E. J. TILT, of London, orders, in purely atonic cases of menorrhagia, the following vaginal injection:

℞. Aluminis, ℥j
Decocti quercus albæ, Oj. M.

This injection is inadmissible if inflammatory symptoms be present.

Ferri Chloridi Tinctura, with equal parts of water, has been injected with success.

Galla. Decoction of galls (℥j¼, aquæ Oj), daily injected into the vagina, warm or cold, according to the feelings of the patient, is occasionally useful.

Quercus Alba. The decoction, with or without alum (℥j, ad decocti Oj), is a serviceable and safe vaginal injection.

Sponge Tents. *Dilatation of the cervix* by sponge tents has been found by Dr. G. H. LYMAN and other gynecologists greatly to reduce the flow of blood in numerous cases of metrorrhagia (*Amer. Gynecol. Trans.*, 1877). He believes that the real cause of the persistent hemorrhage is in many cases some peculiar condition of the cervix, which strangulates the circulation, the removal of which condition promptly arrests the flow.

Heat. Vaginal injections of water as hot as it can be borne prove of great service in many cases. Rubber bags or bottles filled with hot water, or a hot tile plate or brick wrapped in flannel, applied to the sacrum, are likewise efficient. Bags of sand or salt may be heated and applied in the same manner; they should in all cases be *hot*, and not merely warm. Dr. JOHN CHAPMAN believes a temperature of 115° Fah. to be sufficient in nearly all cases.

Cold may be applied by cloths or ice bladders to the uterus, vulva, and thighs; or Chapman's ice-bags to the sacrum; or by injections of iced water into the rectum or vagina. Dr. T. G. THOMAS recommends that cold drinks only should be used, and the ingestion of all warm fluids strictly forbidden. In obstinate cases a change of residence from a warm to a cold climate often accomplishes a great deal of good. A lump of ice inserted into the vagina was the only hemostatic employed by Madame RECAMIER. Dr. L. S. OPPENHEIMEIR, of Louisville, speaks strongly in favor of the cold hip-bath (Louisville *Med. News*, Aug. 3, 1878). He says: I have seen cases of metrorrhagia lasting for over a month, permanently cured by this method alone in a few days. The mode of administration of these baths is not that of an ordinary hip-bath, but differs in that the water must be *en courant*. The stream should be so gentle at first as not to be felt by the patient, and gradually increased in force. The whole bath should not last longer than two minutes on the first day, then upon each succeeding day the length of time increased one minute.

HYSTERIA.

Although hysteria is not absolutely confined to the female sex, its vast preponderance among them, and its very frequent, in fact almost invariable connection with some abnormal state of the reproductive system, renders it, for most practical purposes, one of the diseases of women, and for that reason we shall treat of it here.

PROF. AUSTIN FLINT, M. D., NEW YORK.

Of medicinal agents, *asafœtida* and *valerian* stand first. The *bromides* may often be prescribed with advantage; but they, like all narcotics and stimulants, must be continued for a short time only, as hysterical patients very easily drift into their habitual use.

The removal of associated disorders of any kind is an important part of the treatment. Especially should all ovarian and uterine disease receive immediate attention. Ungratified sexual desire as a causative agency has been overrated; over-indulgence in sexual pleasure is more often a cause than continence. The propriety of advocating matrimony is doubtful. A very large proportion of hysterical cases are anemic, and anemia promotes hysteria, as it does other neuroses. To effect a restoration of the normal state of the blood, is generally a prominent indication.

The moral management of such cases always calls for the exercise of delicacy, tact, and firmness.

PROF. WILLIAM AITKEN, M. D., EDINBURGH.

The following directions are given by this author as to what may be done during a fit of hysteria: Everything tight about the patient's person should be loosened. The window should be opened and the cold air allowed to blow over her. The horizontal posture on a bed or the floor should be secured. This being done, many modes of further proceeding may be followed. Bleeding is, in all cases, of doubtful efficacy. When the jaw is locked, the following *enema* (recommended by Dr. Wood) may be used:

85. ℞. Asafœtidæ, ℥ij
Aquæ. Oss. M.
To be beaten up with the yolk of an egg.

Or, what is still better,

86. ℞. Olei terebinthinæ, f.℥ss.
To be mixed with the yolk of an egg, and then added to half a pint of water.

Another remedy is to *fill the mouth with salt.* But that which supersedes all others, and is unquestionably the best, is a *good drenching with cold water.* If the patient lie on the bed, the head should be drawn over its side, and a large quantity of water poured on it, from a considerable height, out of a pail, jug, or other large vessel, and directly over the mouth and nose of the patient, so as to stop her breathing and compel her to open her mouth. This practice is generally introduced into hospitals, and until it was adopted, it was not unusual to see three or four patients in hysteria in the same ward and at the same time. Under this practice, however, a hysterical case is rare, and the fit seldom occurs twice in the same person, and never becomes epidemic.

DR. A. B. ARNOLD, OF BALTIMORE.

This writer remarks (*Med. and Surg. Rep.*, August, 1879), that every physician has some favorite combination from this class of drugs, which the hysterical patient is recommended to keep on hand for emergencies. The following he has found to answer the purpose very well:

87. ℞. Ext. valerian. fl., f.℥j
Ext. sumbul. fl., f.℥ss
Tinct. castorei, f.℥vj
Spt. ether. chloric.,
Syr. aurant. cort., āā f.℥iij. M.
One teaspoonful, frequently repeated.

THOMAS KING CHAMBERS, M. D., LONDON.

88. ℞. Acidi muriatici diluti, f.℥iss
Aquæ calefactæ, (95° F.) C.xxx M.
For a bath. This tonic warm bath is to be used once a day, in order to prepare the patient for a *shower bath* twice a day.

Shower baths, in hysterical cases, are highly recommended by Dr. C. The making up the mind to the shock of a cold shower bath is a capital exercise of the will. Such baths have also a good influence by arterializing the cutaneous circulation, driving the venous blood home to the heart and lungs.

Our author rings the changes upon the following prescriptions in the treatment of this disease:

89. ℞. Pilulæ asafœtidæ, No. xxx.
Three to be taken thrice daily.

90. ℞. Spiritûs ammoniæ fœtidæ, f.℥iij.
A teaspoonful in water three times a day.

91. ℞. Tincturæ castorei ammoniatæ,
Aquæ fœniculi, āā f.℥ij.
A dessertspoonful in water thrice daily.

92. ℞. Pilulæ galbani compositæ, No. xxx.
Two thrice daily.

93. ℞. Zinci valerianatis, ℥j
Syrupi, q. s.
Divide into twenty pills. One to be taken three times a day.

PROF. FELIX VON NIEMEYER, M. D., TÜBINGEN.

94. ℞. Auri et sodii chloridi, gr.v
Tragacanthæ, ℥j
Sacchari, q. s. M.
Divide into forty pills. Order at first one of these pills to be taken an hour after dinner, and another an hour after supper. Afterwards order two pills to be taken at these hours, and gradually increase dose up to eight pills daily.

Dr. N. speaks of this preparation as a nervine of great efficacy in hysteria. He has made use of it with signal effect in many cases where there was no indication for the local treatment of uterine disease, or else where the hysteric symptoms persisted, although the local uterine affection had been cured.

DR. F. T. PORTER, OF DUBLIN,

Has found (Dublin *Journal of Medical Science*, April, 1874,) the bromides to act most injuriously in hysterical cases, deranging digestion, weakening the heart, and retarding menstruation. He prefers the valerianates, hemlock, and lupulus. When there is spinal tenderness, he employs *iron*. When plethora is present, as evinced by increased temperature, vascular relaxation and contracted pupil, he considers *belladonna* a most efficacious remedy.

DR. S. WEIR MITCHELL, OF PHILADELPHIA,

Believes that mimetic hysteria can be cured almost unfailingly; but to accomplish this the patient must be isolated from the cares

and sympathy of home, and placed in an institution under strict surveillance.

Valerianate of zinc in 12 gr. doses thrice daily is a valuable sedative. If there is marked anemia, the patient should be put to bed and fattened by the use of massage, electricity, and excessive feeding.

EDWARD JOHN TILT, M. D., LONDON.

95. ℞. Tincturæ castorei, f.℥iij
Spiritūs lavandulæ compositi, f.℥vj
Aquam camphoræ, ad. f.℥vj. M.

A tablespoonful two or three times a day when cerebral symptoms and hysterical phenomena are marked.

The therapeutical indications in the treatment of hysteria are: 1st. To blunt the sensitiveness of the nervous system by sedatives and antispasmodics, and to strengthen it by metallic and other tonics, and by hygiene. 2d. To cure all diseases of the sexual organs, and save the nervous system from visceral irritation, by good hygiene at menstrual periods; or by marriage, when the sexual organs crave their legitimate satisfaction.

GERMAN PHARMACOPŒIA.

96. ℞. Tincturæ asafœtidæ, f.℥iv
Tincturæ castorei, f.℥jij
Tincturæ opii, f.℥j. M.

From fifteen to thirty drops, by the mouth or in enemata, twice or three times a day, in the hysterical attacks of dysmenorrhea. Bitter drinks and preparations of iron in the intervals of the attacks, if the patient be anemic.

RÉSUMÉ OF REMEDIES.

Æther. Nothing, according to STILLÉ, so distinctly moderates the paroxysms of this disease as the inhalation of ether. Those who have found the spasms aggravated by a certain degree of etherization have not administered a sufficient quantity of the vapor. If persisted in, it would undoubtedly have put an end to the fit.

Allium. The smell of bruised garlic will sometimes promptly terminate a hysterical paroxysm.

Atropia. *In hysterical trismus*, nothing acts so well as hypodermic injections of this alkaloid. Full doses are required.

Auri et Sodii Chloridum is prescribed by Dr. NIEMEYER. (F. 93.)

Aloes. The pill of aloes and asafœtida is very serviceable in the constipation of hysteria.

**Ammonium.* The carbonate, the aromatic spirits, the fœtid spirit, the valerianate, and other preparations, are much used and of great value.

Anthemis. A wineglassful of the infusion of chamomile may be given with advantage thrice daily.

**Asafœtida* is a most valuable medicine in this disease. It may be given alone, or combined as directed in the following form:

97. ℞. Tincturæ asafœtidæ,
Tincturæ castorei,
Tincturæ valerianæ ammoniatæ, āā f.℥ij
Aquæ camphoræ, f.℥vij. M.

Dose.—One or two tablespoonfuls every hour. Asafætida may also be given, in the form of an enema. (F. 95.)

Aurantii Flores. Orange-flower water is much used and valued in France. It is an elegant stimulant and antispasmodic, in doses of from one to two fluid ounces.

Cajuputi Oleum internally is often of benefit.

Camphora is a very serviceable remedy, either alone or in combination with asafœtid aor opium.

Cannabis Indica is sometimes useful.

Chloroform inhalation is highly praised by Dr. Brown-Séquard and Dr. Graily Hewitt, in severe and prolonged hysterical paroxysms. Internally it may be given with ammonia or asafœtida. A liniment of chloroform often speedily relieves hysterical pain in the side.

Cupri Sulphas, in small doses, long continued, is recommended by Sir B. Brodie, in obstinate hysteria.

Cusparia Cortex. The infusion is an eligible light tonic in hysteria.

Ferrum is indicated in hysteria associated with anemia. It may be given combined with valerian and other antispasmodics.

Galbanum sometimes agrees better than asafœtida, and may produce equally favorable results, particularly in cases associated with disordered uterine functions. A galbanum plaster over the sacrum often affords relief.

**Lavandula* is sometimes an effectual remedy.

Lupulin has been recommended in chronic hysteria, attended with morbid vigilance, in doses of ten grains every six hours.

Moschus, in doses of gr. x–xv thrice daily, is a valuable remedy, particularly when the surface is pale and the pulse languid.

Potassii Bromidum is sometimes a useful sedative in hysteria. Its use was suggested in this disease by Sir C. Locock.

Ruta. From two to five drops of the volatile oil, on sugar, is a popular remedy; so also is the infusion of rue.

**Santonin* sometimes proves useful in revealing the true cause of the hysterical symptoms, viz., worms in the intestinal canal.

**Spiritus Ætheris Nitrosi* is often very effectual in relieving hysterical spasms.

Terebinthinæ Oleum, in enema, will often arrest a severe paroxysm when ordinary means fail.

**Valeriana* is a valuable remedy; it may be given both during the paroxysm and in the intervals.

Zinci Oxidum is considered by Dr. WARING–CURRAN as more efficacious in hysteria than the valerianate.

Zinci Sulphas, in the dose of one grain, combined with extract of gentian, in pill, two or three times a day, is a valuable remedy in cases of hysteria depending upon debility. It will be found to agree better with many women than the preparations of iron, causing less irritation.

Cathartics are to be administered if constipation exists, as it is important in hysteria to keep the bowels open. Aloes are indicated if there be torpor of the uterine system; mercurials or podophyllin, if there be biliary derangement; and salines, if there be plethora; but active purgation is in no case advisable.

EXTERNAL REMEDIES.

**Shower Baths* are indispensable in the treatment of the paroxysms. (See p. 72.)

Dry Cupping at the nape of the neck, between the shoulders, or below the clavicles, during a paroxysm of hysteria, has been found, by Dr. GRAVES, to be attended with the best results.

Electricity. DR. LAYCOCK advises the persevering and systematic application of electro-galvanism to the abdominal and pelvic regions, in combination with the internal use of tar.

Emetics. An emetic of ipecacuanha, given when the paroxysm is impending, often prevents it.

Frigus. The sudden application of cold to the surface of the body, in hysterical cases simulating death, will revive the signs of life.

Manipulation. Professor THIERRY, of the St. Pierre Hospital, Brussels, arrests hysterical paroxysms by what he calls "torsion of the abdominal walls. He grasps in his hands the entire walls of the abdomen, either in their bare state or covered with the chemise, and imparts to them a certain amount of torsion, which he gradually increases, and which he maintains until the paroxysm has passed away, and the woman is come entirely to herself.

CHLOROSIS.

This name, or that of *green sickness*, is given to the anemic condition of young girls, associated with disordered menstrual function. The blood has an excess of fibrine, and undergoes some chemical change in its pigments which produces the greenish hue of the skin, whence the disease has its name. Attention to hygienic conditions, baths, nutritious food, regularity of the bowels, and judicious mental and physical exercise, are first in importance.

DR. FREDERICK T. ROBERTS.

This writer on *Practice* considers *aloes* the best form of aperient, either the extract, or as *pil. aloes cum myrrhâ.* For the unpleasant sensations in the stomach, bismuth, with hydrocyanic acid, is particularly valuable. For the pain in the side often complained of, a belladonna plaster is usually efficacious. Iron is the great remedy; and it is frequently desirable to change the form of the preparation from time to time.

PROF. A. P. REID, OF MONTREAL.

This writer (Canada *Medical Record*, 1875,) has adopted, with signal success, in uncomplicated chlorosis, the use of *liquor potassæ*, gtt.x–xv, in mucilage, thrice daily. It defibrinizes the blood, and often acts promptly for good where iron is of no avail.

DR. BRETONNEAU, FRANCE.

98. ℞. Ferri redacti, ℥ij
Quiniæ sulphatis,
Zingiberis pulveris, āā gr.vij
Extracti cinchonæ, ℈j
Aloës socotrinæ, gr.iij. M.

Divide into fifty pills. One to five a day. These pills have the advantage of not causing constipation.

DR. GAILLARD, PARIS.

99. ℞. Ferri carbonatis,
Extracti cinchonæ, āā ℥ijss
Extracti opii, gr.xv. M.

Divide into one hundred pills. From two to four a day, principally at meal times.

When there is constipation, this formula ought to be modified as follows:

100. ℞. Ferri carbonatis, ℥ij
Extracti cinchonæ,
Extracti rhei, āā ℥iss
Extracti opii, gr.xv. M

Divide into one hundred pills. To be taken as above.

PROF. E. J. TILT, M. D.,

Believes that, in addition to the general treatment, we require some means of increasing ovarian energy. He directs the patient to wear during the day a bit of piline large enough to cover the ovarian regions, sprinkled with alcohol.

DR. LOMBE ATTHILL, OF DUBLIN,

Regards strychnia as of the highest value; he gives five drops of the liquor strychniæ, equal to $\frac{1}{24}$ of a grain of the alkaloid, gradually increased to 10 drops three times a day, or combined with tincture of perchloride of iron. Strychnia acts as a powerful stimulus to the ovaries as well as a general tonic. When there is no anemia, five drops of tincture of iodine, and five of solution of strychnia, are of great value.

For the constipation, he uses two grains of sulphate of iron with a quarter or half a grain of extract of aloes, three times a day. This often acts like a charm.

PROF. T. GAILLARD THOMAS, M. D., NEW YORK.

Regards the indications as to remove the cause, cure the neurosis, repair damages; then change of air, well-regulated open air exercise, sea bathing; tonics, as arsenic, strychnine and quinine. The continuous electric current and general electrization often are beneficial.

For the anemia he gives:

101. ℞. Ferri vini amari, f.℥vijss
Tr. nucis vomicæ, f.℥iv
Liq. potas. arsenit., f.℥ij. M.

A dessertspoonful in a glassful of water just after each meal.

GRAILLY HEWITT, M. D., LONDON,

Regards the accompanying dyspepsia as best treated by food *frequently and in very small quantities* for days together, and of the simplest character, avoiding solids. Ferruginous preparations are essential, but should be given in small doses, and are best in the form of mineral waters.

HENRY M. FIELD, M. D., OF BOSTON.

In cases of females where their maladies were connected with anemia indicating the use of iron, this writer has been very much pleased with the action of *oxalate of iron*, a preparation first brought to notice by Prof. CRAIG, of the Smithsonian Institute. It is a light and tasteless powder, with nothing repulsive in its appearance or odor. It may be given as a powder to those patients who object to the pill form. The dose is gr. ij–iij. He states that it is less liable to cause irritation or constipation of the bowels than other ferruginous preparations, and many patients who have asserted they could not take iron in any form, have taken this without difficulty.

RÉSUMÉ OF REMEDIES.

Aloes. This is frequently very efficient. (See p. 77.)

Bismuthi Subnitras. Sir H. MARSH states (*Medical Press*, March 6th, 1867), that in chlorosis, bismuth is an excellent substitute for iron, when the latter is not well borne.

Cocculus Indicus is recommended by PHILLIPS in chlorosis with amenorreha.

Ergot, in five-grain doses, three or four times a day, is recommended by CHURCHILL, in chlorosis and leucorrhea.

**Ferri Iodidum.* In chlorosis, accompanied by much torpor of the system, Dr ASHWELL has found this salt particularly efficacious, in the following formula:

102.	℞.	Ferri iodidi,	gr.xvj	
		Tincturæ calumbæ,	f.℥j	
		Aquæ,	f.℥vij.	M.

Take two tablespoonfuls twice a day.

**Ferri Mistura Composita*, *Ferri Chloridi Tinctura*, *Ferri et Quiniæ Citras*, *Ferri Sulphas*, and *Ferri Vinum*, are all excellent ferruginous preparations in chlorosis.

Sir H. MARSH advises (*Medical Press*, March 6th, 1867), the following formulæ:

103.	℞.	Liquoris ammoniæ citratis,	f.℥iij	
		Ferri et quiniæ citratis,	gr.vij–xxiv	
		Syrupi,	f.℥j	
		Aquæ,	f.℥iv.	M.

Two tablespoonfuls three times a day.

104.	℞.	Ferri sulphatis,			
		Aloës,	āā	gr.ij	
		Pulveris cinnamomi,		gr.v.	M.

For two pills, to be taken at dinner-time, and repeated at night if necessary.

Sadæ Biboras. Dr. COPLAND advises the following formula:

105. ℞. Sodæ biboratis, ℈ij
Sulphuris præcipitatæ, ʒj
Mucilaginis acaciæ, q. s. M.
Make twenty-four pills. Three to be taken three times daily.

Nux Vomica. Dr. COPLAND has derived benefit in some obstinate cases of chlorosis from the following formula:

106. ℞. Pilulæ aloës c. myrrhâ, ʒij
Extracti nucis vomicæ, gr.x. M.
Thirty-six pills. Take one to two night and morning.

Potassæ Liquor will occasionally overcome persistent anemia which has defied all other means. Dose ʒss–j, largely diluted, two or three times a day.

[For the general treatment of Anæmia see further suggestions in *Napheys' Medical Therapeutics*, Chapter VI.]

THE CLIMACTERIC EPOCH, OR THE CHANGE OF LIFE.

PROF. ROBERT BARNES, M. D., LONDON.

This author remarks that in many cases the local and constitutional disorders which attend the menopause are numerous and severe. Among these may be enumerated uterine and vicarious hemorrhages, a peculiar occipital headache, convulsive seizures, as vertigo and epilepsy, despondency, irritability, and loss of mental power, and various nervous disorders. Dyspepsia, colic, and excessive constipation, are among the most common attendants. Hysteria and pseudocyesis are also frequent.

The principles of treatment are primarily to regulate the secretions, and exact a strictly hygienic mode of life. If the abdomen is large and the bowels distended with gas, a broad, well-fitting abdominal belt will give great relief. When the patient is plethoric and florid, the abstraction of eight or ten ounces of blood from the arm, or by half a dozen leeches behind the ears, or by cupping between the shoulders, will often be of signal service. As an alterative, the *acetate of ammonia* is one of the best; it may be combined with colchicum or lithia if a gouty diathesis is suspected. A most valuable remedy is *bromide of potassium*, gr. x–xx, two or three times a day, to calm and regulate the nervous centers. Quinine and strychnia are to be preferred as nerve tonics. To keep the bowels open the habitual use of laxative saline mineral waters is the most serviceable means.

DR. G. E. SÜSSDORF, OF GERMANY,

In speaking of the general rules for the treatment of disease at the change of life, this author makes the following points (London *Med. Record*, Dec. 1878).

1. The time of the menopause, as regards the inception and aggravation of disease, equals in importance that of puberty, or any other epoch of life.

2. That while, as a rule, the majority of functional and organic diseases of the female generative organs decrease in intensity after the menopause, there is a considerable proportion of cases in which the reverse happens, even to the extent of the disease becoming malignant.

3. In many instances these latter cases do not present decided local symptoms of the pathological conditions present, but are indicated by general signs, which attract attention because they occur at that particular time of life.

4. In no case of general or local disorder, just before or during the menopause, should local examination be omitted, which will frequently reveal at a glance the origin of the hitherto inexplicable phenomena, and also indicate the therapeusis.

5. Such therapeusis should be radical and effective, quite regardless of this particular time of life, the dangers of operating during which have been undoubtedly exaggerated.

PROF. J. B. FONNSAGRIVES, OF MONTPELLIER.

The indications of treatment for the complications of the menopause are as follows (*Traité de Therapeutique Appliquée.* Paris, 1878):

1. *To combat the condition of general and local plethora.* No measure is so frequently successful as general bleeding, especially from the foot; or if the uterus is much congested, from the arm. The life should be active, the diet restricted, the sleep light, etc.

2. *To combat the menorrhagia.* The two most efficacious drugs are *ergot* and the *urtica urens*, as:

107. ℞. Ergotinæ,
Extracti matico, āā gr.xv. M.
Make ten pills. Give one every one or two hours.

The *urtica urens* may be given in decoction, ℥j to aquæ Oj, of which a wineglassful may be taken every hour or two. *Cold baths* taken twice a day during the intermenstrual period are often of service. Cold vaginal injections also are beneficial.

3. *To combat the nervous complications.* These must be treated in detail as they present themselves. An enlightened hygiene is all important. As a rule the use of alcoholics, spiced food, and venereal excitements, should be prohibited. Dr. F. adds the advice, that after the permanent cessation of the menses, sexual approaches should absolutely cease, as they induce to the uterus a congestive afflux, which, useless for the function of reproduction, can only serve to cause various organic affections.

PROF. FORDYCE BARKER, M. D., OF NEW YORK.

In menorrhagia associated with the climacteric period, the uterus is generally found somewhat increased in size and weight. When such is the case, Dr. BARKER directs the patient to use for a week previous to the return of the expected period, rectal suppositories made after the following formula:

108. ℞, Extracti ergotæ aquosæ (Squibb), ℈ij
Butyri cocoæ, ʒj. M.
Make twelve suppositories. Introduce one into the rectum morning, noon and night.

They should be carried well up into the bowel, and the patient should lie down for an hour afterwards.

Another plan of treatment, which is usually entirely successful if repeated for two menstrual returns, is to introduce into the cavity of the uterus cylinders of iodoform, made according to the following formula:

109. ℞. Iodoformi, ʒijss
Gum tragacanthæ, gr.xv
Mucilaginis, q. s.
Divide into ten cylinders, each one and one-half inches in length.

One of these is to be carried completely into the cavity of the uterus, and a pledget of cotton introduced against the cervix to retain it in position. One of these is to be introduced daily for five or six days before menstruation. The iodoform has an unpleasant odor, but is the most efficient of all preparations which Dr. BARKER has tried in these generally obstinate and troublesome cases.

RÉSUMÉ OF REMEDIES.

Ammoniæ Acetas is considered by Dr. BARNES the best of the saline alteratives.

Carbolicum Acidum. Dr. BARTLETT, of New York (*Buffalo Medical Journal*, Sept., 1878,) places great confidence in carbolized sponge tents introduced within the cavity of the uterus. He has never seen ill effects, and has frequently controlled, by a single tent, climacteric hemorrhages which had resisted the ordinary tampon and various astringents. He introduces the tent through the speculum, well up to the fundus, and tampons over it in the usual way.

Ergota is an invaluable drug in many cases. (F. 107.)

Iodoform is very highly praised by Dr. BARKER. (F. 109.)

Matico is given internally by Prof. FONNSAGRIVES. (F. 107.)

Urtica. The various species of nettle have long enjoyed a reputation as efficient hemostatics in the hemorrhage of the critical epoch. Dr. W. B. JOHNSON, of Alabama, speaks highly of the *urtica urens* (New Orleans *Medical and Surgical Journal*, Vol. VI.), and Prof. FONNSAGRIVES gives the weight of authority in its favor. (P. 82.)

Purgatives. Mr. LAWSON TAIT (*Diseases of Women*, 1879,) says that for the relief of nearly all the subjective symptoms of the climacteric period, he knows nothing better than the occasional use of a drastic purgative, and removal from home at frequent intervals. They take the place of bleeding, which, in small amounts, gives in some cases immense relief.

CHAPTER II.

DISEASES OF THE UTERUS AND ITS ANNEXES.

Synopsis of Diagnostic Points—Metritis (Non-puerperal Endo-, Peri-, and Parametritis, Uterine Catarrh, etc.)—Cervicitis (Ulcerations and Granulations of the Os, etc.)—Displacements—Non-malignant Growths (Polypi, Fibroids, etc.)—Malignant Growths—Sterility and Anaphrodisia—Nymphomania.

SYNOPSIS OF DIAGNOSTIC POINTS.

GENERAL OBSERVATIONS.

The most enlightened school of modern gynecologists discountenance making gynecology a specialty, either in diagnosis or treatment. In other words, they insist on studying it as a department of general medicine. "There is, in truth," says Dr. ROBERT BARNES in a recent lecture (*Lancet*, May 25, 1878), "nothing more special in gynecology than there is in the study of heart disease, lung disease, or any other disease." And in the same spirit Prof. J. H. ETHERIDGE, of Chicago, writes (*Chicago Medical Journal and Examiner*, November, 1878): "Just so far as gynecologists can separate this so-called 'science' from the general science of medicine, will they obscure the mind of the ordinary practitioner with the error that gynecological cases need *special* care and skill, and are beyond the necessity for general prescribing."

As general rules in the diagnosis of uterine disease, Dr. BARNES recommends that all the functions and organs be studied in a certain regular order, as follows:

(1) Aspect, plumpness, color and state of the skin generally.

(2) The circulation, pulse, respiration, and temperature.

(3) Nutrition, the tongue, appetite, digestion, stomach, intestines, defecation, and bile.

(4) The urinary organs, the kidneys and bladder, as to pain, as to retention or other characters, as well as the characters of the urine itself.

(5) The nervous system, sleep, motor power, general languor or exaltation, excito-motory system, mental state, delirium, pain, and its seat and kind.

(6) The sexual organs, the menstrual functions, child-bearing, and the secretions.

All these phenomena should be, as far as possible, explored by the aid of manipulation, and the appropriate instruments of exploration. It is a dangerous thing to form a subjective diagnosis; it is equally dangerous to accept the diagnosis from the patient.

With regard to the special symptoms and signs which an examination of the uterus and uterine functions may disclose, we quote from a lecture by Dr. GRAILY HEWITT the following two lists the first (A) a list of the symptoms of all kinds which may be observed in connection with diseases or affections of the uterus, these symptoms being placed as nearly as possible in their order of frequency. The second (B) is a list of the various physical changes which the uterus may undergo:

A. UTERINE SYMPTOMS.

Pain { 1. Spontaneous.
2. Produced by motion (dyskinesia).
3. Undue sensitiveness of uterus to touch.

Leucorrhea.
Dysmenorrhea.
Menorrhagia.
Amenorrhea.
[If married—Sterility, abortions.]
Various reflex phenomena:—
1. Sickness or nausea.
2. Hysteria.
3. Convulsions.
4. Cephalalgia.
5. Melancholia.

Disturbance of functions of bladder.
Disturbance of functions of rectum.
Disturbance of sexual functions (dyspareunia).

B. UTERINE CHANGES (NON-ORGANIC).

Change in position.
Change in size of walls.
" " cavity.
" " cervix.
Change in shape.
Change in patency of canals.
Change in texture.
Undue hardness.
Undue softness.
Increased vascularity.
Disorders of innervation.
Increased secretion.

Here, then, we have the data for the construction of a pathology of the uterus; all the possible changes on one side, all the possible effects on the other. It must be understood that organic diseases of the uterus, cancer and fibroid tumor, are excluded from the list, the nature, course, and effects of these organic diseases being better understood. It must not, however, be forgotten that these organic diseases may occasion one or all of the uterine symptoms.

UTERINE INFLAMMATIONS

Are usually divided into the acute and chronic forms of metritis, endometritis, cervicitis, and endocervicitis. The distinction has also been made between parametritis and perimetritis, and various forms of inflammation of the os, granular, catarrhal, ulcerative, etc.

So far as treatment is concerned, in nearly all cases it is sufficient to distinguish between cervicitis, in which the os is alone or principally affected, and metritis, in which the body of the womb is also implicated.

The distinctions which have been drawn between endometritis and endocervicitis, are compared by Dr. ETHERIDGE on the following page:

	1. METRITIS.		2. CERVICITIS.
	Acute. (*Very rare.*)	Chronic.	Chronic.
1. General symptoms.	*a.* Violent pelvic pain, accompanied with rectal, vesical, and uterine tenesmus, and sometimes with nausea and vomiting. *b.* Pressure over abdomen reveals great sensitiveness.	*a.* Dull, heavy, dragging pain in pelvis, increased by locomotion. *b.* Defecation and coition painful. *c.* Menses accompanied with pain, which begins several days previous. *d.* Pain in mammæ during and before menstruation. *e.* Darkening of areolæ of the breast. *f.* Nausea and vomiting. *g.* Great nervous disturbance. *h.* Pressure on rectum, with hemorrhoids and tenesmus. *i.* Pressure on bladder, with vesical tenesmus.	*a.* Pain in back and loins. *b.* Pressure on bladder and rectum. *c.* Painful and sometimes profuse menstruation. *d.* Difficulty of locomotion. *e.* Nervous disorders. *f.* Pain during sexual intercourse. *g.* Dyspepsia, headache, general lassitude, and debility.
2. Touch.	*a.* Vagina hot and dry, unless, from coexisting endometritis, there be purulent discharge. *b.* Organ low in pelvis, os enlarged, cervix swollen, pressure on cervix very painful. *c.* Painful tenderness most apparent upon rectal touch and conjoined manipulation.	*a.* Enlargement. *b.* Tenderness.	*a.* Uterus low down. *b.* Cervix large, swollen, and painful, and os may admit finger. *c.* Usually tenderness.
3. Speculum.	*a.* Usually produces too much pain to be used.	Nothing revealed specially.	Confirms signs evinced by touch.
4. Probe.	*a.* Produces intolerable pain, and cannot usually be resorted to.	*a.* Usually reveals some flexion or version, tenderness.	Reveals great sensitiveness before reaching os internum, but nothing beyond that.

	3. ENDOMETRITIS.	4. ENDOCERVICITIS.	
	Chronic.	Acute.	Chronic.
General symptoms.	*a.* Leucorrhea; streaked, glairy, and bloody. *b.* Menstrual disorders. *c.* Pain in back, groins, and hypogastrium. *d.* Nervous disorders. *e.* Tympanitis. *f.* Symptoms of pregnancy. *g.* Sterility.	*a.* Dragging weight and pain in pelvis, pain in back, groin and thighs. *b.* Rectal and vesical tenesmus. *c.* Purulent discharge, sometimes bloody after 3 or 4 days. *d.* Tympanitis and tender abdomen.	*a.* Dragging sensation in the pelvis. *b.* Pain in back and loins increased by exercise. *c.* Profuse, irritating leucorrhea, like boiled starch. *d.* Menses, too scanty or *vice versa*, too frequent or *vice versa*. *e.* Nervous, irascible, moody, or even hysterical. *f.* Digestion impaired, ultimately spanemia, sometimes nausea, etc.
Touch.	*a.* Conjoined manipulation reveals tenderness of fundus.	*a.* Vagina hot and dry, or covered with above discharge. *b.* Os gaping, cervix swollen and tender, body slightly enlarged, whole organ lower in pelvis than normal.	*a.* Os in normal position, may be enlarged, lips puffy or may be roughened. *b.* Pain results from placing the finger under the cervix and pressing upwards.
Speculum.	*a.* Reveals nothing special.	*a.* Cervix puffy, swollen, and red, fluid exuding from os, either clear, albuminous looking, muco-pus, or stringy and tenacious.	*a.* Long, stringy, tough, tenacious mucus, difficult to remove, exuding from os. *b.* Cervix not usually enlarged, may be puffy and swollen and very red, as if ulcerated, due to removal of investing epithelium.
Probe.	*a.* Patulous os internum. *b.* Uterine cavity prolonged. *c.* Tenderness. Withdrawal followed by blood.	*a.* Great tenderness throughout whole organ, and removal followed by a few drops of blood.	*a.* Meets with obstruction at os internum. *b.* Does *not* produce pain by striking against the walls of the fundus, nor is its removal followed by blood or mucus.

METRITIS (NON-PUERPERAL, ENDO-, PERI-, AND PARA-METRITIS, UTERINE CATARRH, ETC.)

PROF. WM. H. BYFORD, M. D., OF CHICAGO.

The treatment of chronic inflammations of the uterus, is divided into the general and local treatment.

General Treatment. The patient must be placed under the best practicable hygienic and dietetic rules, and sexual congress forbidden during treatment. For the nervous prostration, *fresh and cold air* is one of the most valuable tonics. The patient should be in the open air as much as possible; or if confined to the house, she should be well covered and all the windows and doors of the room thrown open several times daily. She should keep in open cold rooms; and the use of stimulants, to which such cases are given, should be forbidden. For the nervous excitability, regular rest, exercise, and outdoor exposure, are the most efficacious means. Medicines as a rule are not well borne in these cases. Quinine, nux vomica, wild cherry and chamomile, are the best. Stimulants must be exhibited cautiously, and opium is generally not well borne. Nervous headache, insomnia, and neuralgic pains, are often greatly relieved by bromide of potassium in full doses (gr. xxx–lx every hour in abundance of water, until relieved). Anemia and plethora, if present, must be appropriately met. Constipation is often present, and must be overcome by prompt attentention to the desire of defecation, by a full vegetable diet, especially fruits, and by drugs. Of the latter, sulphate of magnesia, ℥ij–iv, may be given with some acid in the morning; or gr. vj–x of blue mass may be given every fourth or fifth night, followed by Epsom salts in the morning. When through long habit, the secretions of the intestines are scanty, and their coats atonic, a special tonic is called for. Simple and effective formulæ are:

110. ℞. Strychniæ sulphatis, gr.j
Ferri sulphatis, gr. viij
Acidi sulphurici diluti, q. s.
Aquæ, f.℥ij. M.
For a solution. One teaspoonful three times a day after eating.

111. ℞. Strychniæ sulphatis, gr.j
Extracti rhei, ℈iss
Sulphatis ferri, gr. x. M.
For 16 pills. One to be taken once, twice or three times a day, as may be necessary.

112. ℞. Quiniæ sulphatis, gr.j
Pulveris nucis vomicæ, gr.v. M.
For one pill. To be taken after each meal.

These are our most valuable remedial agents. *Massage* is not unfrequently a valuable aid (See *Résumé of Remedies* for the method employed). Cold water may be thrown into the rectum twice a day in small quantities, say f.℥viij. Or a suppository may be used, as

113. ℞. Extracti gentianæ, ℈j
Butyri cocoæ, q. s. M.
For a rectal suppository.

Quinine, gr. v, may be employed in a similar manner.

As a means of relaxing the sphincter ani, and removing its irritability, we can sometimes employ with advantage an ointment of belladonna:

114. ℞. Extracti belladonnæ, ʒij
Unguenti simplicis, ℥j. M.
Ayply to the anus externally on going to bed at night.

When the rectum is weak and becomes readily filled with accumulated feces, this can in a measure be prevented by wearing an air or sponge pessary, which will press the rectum against the sacrum and thus reduce its capacity.

Local Treatment. Of the local measures employed, *baths* may be first mentioned. *Injections* are internal baths. The most common bath is the sitz- or hip-bath. Where there is much pain, with little inflammatory action, this often affords great relief. In many cases the patient can advantageously introduce a speculum while in the bath, so that the medicated water can readily reach the uterus. That temperature should be chosen which is most comfortable to the patient. Vaginal *injections* are applicable to almost all cases of cervical inflammation. Dr. Byford condemns intra-uterine injections as dangerous. The quantity of simple injections should generally be large—from one to eight quarts. Astringent injections ought not to be used more often than twice a day, the rule

being never to repeat so long as the vagina is dry from the preceding one. The temperature should be governed by the feelings of the patient.

Anodyne, astringent and alterative suppositories, pessaries, and powders, may be resorted to with profit in many instances. The "suppository syringe" will enable the patient to place ointment in contact with the uterus very conveniently. In using narcotics in the vagina, the proper dose is double that by the mouth. The vaginal mucous membrane absorbs much more slowly than that of the rectum.

The local remedies most employed by Dr. B. are the various depletory measures, nitrate of silver, tannin, acid nitrate of mercury, nitric acid, and caustic potassa.

Nitrate of silver he prefers in the solid form. It should be slowly and gently passed over the inflamed or ulcerated part. If we use no more force than is necessary to keep it in contact with the part, there is no danger of keeping it there too long. It can be applied about once in six days. If applied in solution it should be strong—one part to four of water. It is not so applicable in aged persons, and they are often made worse by it. Creosote or caustic potassa is better in these cases. It also sometimes causes such severe pain that a substitute must be found.

DR. LOMBE ATTHILL, OF DUBLIN.

Chronic Endometritis. This disease presents itself in two forms, requiring different treatment. 1. As it appears in women who have borne children; and 2, in nulliparæ and virgins.

In women who have borne children the os is patulous and the sound is readily introduced, although causing pain. The lips of the os are usually swollen and soft. An important preliminary step in such cases is *local depletion* by puncturing the cervix. One or two punctures, one-eighth of an inch in depth, will generally be followed by sufficiently free bleeding. To this should follow the application of strong caustics to the interior of the uterus. Dr. A. prefers *nitric acid* and the solid *nitrate of silver*. Nitric acid seldom causes any pain if properly applied, and it has a wonderful effect in bringing about a healthy condition of the mucous membrane. It is readily applied on cotton, through the author's platinum canula or similar instrument. Carbolic acid may also

prove serviceable in mild cases. If vegetations on the endometrium exist, they should be removed with the curette before the caustic is applied.

In virgins and women who have never been pregnant, endometritis is usually accompanied by an elongated, probably swollen and congested cervix uteri, with a very small os from which a clear and slightly viscid discharge exudes. Flexion of the fundus is also often present. In these cases the first indication is *division of the cervix* so as to insure a free escape for the contents of the uterus. Often this procedure will be sufficient: if it is not, we should have recourse to the subsequent treatment of the unhealthy mucous membrane by the application of carbolic acid, or some similar agent.

Dr. A. regards *blisters* as of great value in chronic metritis and endometritis, where local blood-letting does not relieve. He applies them of small size, about two inches in diameter, and repeats them at intervals of a few days, placing them alternately over the sacrum and over the pubes, or over the ovary, if that be the chief seat of pain.

In debilitated patients the application of *iodine* is preferable to blisters, as it does not weaken so much. Its use must be continued for weeks, and it is best to direct it to be rubbed in over a limited space only, and when that spot becomes tender, to apply it to an adjoining part.

To relieve the distressing *backache* in these affections, Dr. A. recommends:

115. ℞. Linimenti camphoræ comp., f.℥x
Tincturæ aconiti,
Chloroformi, āā f.℥iij. M.
For a liniment.

Or,

116. ℞. Unguenti veratriæ,
Unguenti potassii iodidi, Partes æquales. M.
For an ointment.

Either of these is to be well rubbed in over the seat of pain.

DR. L. PLAYFAIR, LONDON.

This writer observes that in many long-standing cases of uterine catarrh it is vain to expect a permanent cure by any means

which do not act directly on the seat of the disease, which is the lining membrane of the cavity of the uterus and cervical canal beyond the external os; accompanied, of course, with secondary morbid states of the body of the uterus and cervix, such as hypertrophy, congestion, etc. Rest, applications to the exterior of the cervix, and general treatment, will unquestionably cause a temporary improvement, but on a recurrence to the old habits of life all the old symptoms return. There are serious objections to intra-uterine injections, unless the *os is first dilated with laminaria tents*, as they are apt to bring on severe uterine colics. By means of fine probes of whalebone or flexible metal round which a thin film of fine cotton wool is wrapped, alterative applications can readily be made to the interior of the uterus, without pain or danger. In the very numerous cases in which this plan of treatment has been carried out, in no single instance has anything but the greatest benefit accrued. It is no doubt advisable to select the cases judiciously, and where there is much uterine tenderness, intra-uterine treatment should be postponed until this has been diminished by rest, leeching, etc.; but with proper precaution the treatment is perfectly safe. A concentrated solution of *carbolic acid, eighty parts to twenty of water*, is used, and it acts so well that for a long time nothing else has been employed. After the first application, the discharge is sometimes increased, but after the second or third it is generally greatly diminished, and a single application is often sufficient to cure superficia lerosions of the cervix. As a rule, there is no difficulty in passing the probes, as in true uterine catarrh the os is invariably patulous.

PROF. ROBERT BARNES, M. D., LONDON,

In cases of simple metritis, applies twelve to twenty leeches above the pubes. A plasma consisting of one drachm of extract of belladonna, mixed with half an ounce of mild blue ointment, and two ounces of simple cerate, spread thinly in lint and applied to the hypogastrium, the whole covered with cotton wool, will give ease and subdue the inflammation. Tepid vaginal irrigations with water or decoction of poppyheads, or with laudanum, are useful. One grain of calomel with half a grain of opium may be given every six hours for a day or two, taking care not to salivate. Next salines, especially the acetate of ammonia, and nitrate of potassa,

with sedatives, are useful. When there is septic infection, avoid leeches. Use the plasma as above, and salines combined with quinine and tonics. Offensive discharges are to be corrected by intrauterine injections of permanganate of potassa in carbolic acid.

In the chronic form, it is important to aid the womb in throwing off its congestion, and hence support by a proper pessary is very useful. Warmth is of great service, as by heated bags of salt or bran, or water to the hypogastrium, or even the whole, or hip-bath, at 90° to 95° F. Free access must be given for the warm water to the vagina, by the use of the bath speculum. Irrigation may be employed, as the use of the patent syringe to play upon the cervix for fifteen or twenty minutes at a time. The general treatment must be tonic.

PROF. T. GAILLARD THOMAS, NEW YORK,

Insists upon perfect rest in bed. He applies warm poultices in towels wrung out of hot water to the hypogastrium, and covered with oil-silk. The patient should be kept under the moderate use of opium.

In chronic cervical endometritis, he relies upon *general regimen*, as the removal of depressing influences, etc.; vegetable tonics, mineral acids and iron; appropriate diet, but no stimulation; fresh air and exercise. As a tonic and cathartic he gives:

117. ℞. Magnesiæ sulphatis, ℥ij
Ferri sulphatis, gr. xvj
Ac. sulph. dil., f.℥j
Aquæ, Oj. M.
Two tablespoonfuls in a tumbler of iced water daily on rising.

Or,

118. ℞. Sodii et potassæ tart., ℥ij
Vini ferri amari, f.℥ij
Ac. tartarici, f.℥iij
Aquæ, f.℥xiv. M.
Two tablespoonfuls as above.

If necessary, the draught may be repeated during the day.

As a digestive tonic, he gives:

119. ℞. One rennet washed and chopped,
Sherry wine, Oj
Macerate for twelve days, decant, filter and add
Ac. muriat. dilut.,
Tr. nucis vom., āā f.℥ij
Bismuthi subnit., ℥ij.
One teaspoonful in a quarter of a tumbler of water, before each meal

Emollient Applications. Irrigations for twenty or thirty minutes of the cervix night and morning by warm water, with the addition of salt, glycerine, boiled starch, infusion of linseed, slippery-elm, or tincture of opium.

Alterative Applications. First, dilatation of the cervix. The surface having been thoroughly cleansed, it should be well painted with a saturated solution of copper, zinc or lead. Next a bit of cotton with a piece of stout thread attached, dipped in glycerine, should be applied to the cervix. This treatment may be repeated once a week.

Or applications may be made by means of the probe wrapped with cotton, which is then saturated with the solution to be employed.

LAWSON TAIT, F. R. C. S., BRIMINGHAM.

The treatment of *chronic metritis* consists most essentially in absolute rest in bed during menstruation, and total suspension of marital life. For medicines there is nothing like bromide of potassium and ergot, and there is nothing so bad as iron. No matter how anemic the patient is, iron should not be given until the uterine condition is cured, after which, indeed, it will often work marvels. Intra-uterine remedies are powerful adjuvants. Desiccated sulphate of zinc, carbolic acid, and even nitric acid, may be used. Where the chronic metritis is the result of an acute process, very great caution must be observed in applying any intra-uterine medication, lest the original mischief be re-excited.

Acute Endometritis is nearly always the result of gonorrheal infection. Its characteristic signs are severe pain, some fever, tenderness of the uterus, and a profuse yellow purulent discharge from the os. The treatment is rest in bed, pessaries of lead and opium, hot fomentations over the abdomen, or even a blister, with general antiphlogistic measures. Both vaginal and intra-uterine injections are to be sedulously avoided.

Parametritis often occurs in the first few months of wedded life. Its treatment is by absolute rest in bed, with opiates and warm fomentations or poultices. If the tumor can be felt from the vagina, it should be tapped as soon as the indications of pus are clear.

PHILADELPHIA HOSPITAL.

Perimetritis. As regards internal remedies, one-twenty-fourth of a grain of the bichloride of mercury, with ten grains of the

muriate of ammonia, are given three times each day in the mist. glycyrrh. comp. A pessary of cotton is constructed, which can be so adjusted as to hold the womb up. This cotton is dipped in a solution containing three-quarters of a grain of morphia to the drachm of glycerine. The morphia allays the pain and reduces the inflammation, and the glycerine usually sets up a copious watery discharge from the vagina. Iron is not employed until late in the progress of the disease.

After the inflammation is subdued, the patient is put upon the following mixture:

120. ℞.	Hydrarg. chloridi corros.,		gr.j	
	Liq. chloridi arsenitis,		f.℥ss	
	Mist. ferri chloridi,			
	Acid. muriat. dil.,	ää	f.℥ij	
	Syrupi,		f.℥iij	
	Aquam,	q. s. ad	f.℥vj.	M.

S. One tablespoonful after each meal.

DR. ROBERT BATTEY, OF ROME, GEORGIA.

This writer has found of excellent effect what he denominates *iodized phenol* (*American Practitioner*, Feb., 1877).

121. ℞.	Iodinii,		℥ss	
	Acidi carbolici crystal.,		℥j.	M.

Combine by gentle heat.

This is an energetic escharotic and alterative, and may be used, applied on lint or cotton, to cancerous surfaces. But for metritis, chronic affections of the cervix, hypertrophy, and subinvolution, he takes the following:

122. ℞.	Phenol iod. (No.),		℥iss	
	Acidi carbolici crystal.,		℥j	
	Aquæ,		f.℥ij.	M.

Make a solution.

This is to be used either of full strength or diluted with glycerine, to one-half, one-third, or one-fourth, according to the nature and requirements of the case. It is applied on cotton, the interior of the canal and uterus being mopped out (after the dilatation of the inner os), with the fluid.

DR. V. H. TALIAFERRO, OF ATLANTA, GEORGIA.

Pressure in Uterine Diseases. This practitioner has brought prominently to notice the application of pressure in diseases of the

uterus, especially in the forms of chronic metritis (*Trans. Med. Assoc. Ga.*, 1878).* The pressure is exerted by filling the vagina firmly with well-prepared cotton or sheep's wool, in the manner of a tampon.

In commencing the use of this tampon, the vagina should not be *entirely filled.* It is better to fill first the upper portion of the canal, which may be done quite tightly, and gradually to encroach upon the entire canal as it becomes inured to the foreign substance. Not unfrequently the tampon will irritate the vagina in the commencement of treating by its use, when it should be left off for a day or two, and hot water injections substituted. If, however, there be but little irritation, the use of a little simple cerate, or better, vasaline, upon the vaginal surface, will enable us to continue the tampon.

He is convinced that in this method we have a remedy for the rapid reduction of chronic congestions of the part, superior to any other. In adhesions of the uterus, with inflammatory deposits, however extensive, its patient and persistent use is absolutely curative.

INTRA-UTERINE MEDICATION.

This is applied in the various forms of injections, pledgets, ointments, pessaries, crayons or pencils, capsules, and powders.

UTERINE INJECTIONS.

Prof. CARL SCHROEDER, of Erlangen, recommends the following cautions in the use of uterine injections:

1. They should be avoided where there is marked tenderness or inflammation of the uterus or its appendages.

2. There must be a free exit of the injected fluid; hence it is better first to dilate, in every case, the uterine neck.

3. Only a small quantity of fluid must be injected.

4. The fluid should be slightly warmed, and slowly injected.

5. Where there is flexion of the uterus, it is advisable to draw the fluid back into the syringe after a minute or two.

Of substances used, probably the solutions of alum and iodine are the most useful, and these do not form precipitates with the albumen of the discharge, as iron, acetate of lead, nitrate of silver, etc.

The safety of uterine injections has been much debated of late years, and is doubted by Drs. T. G. THOMAS, and PAUL F. MUNDÉ,

of New York, and others; but the tendency now is to consider them as without risk, if not too violent, and performed with all necessary precautions, especially that the internal os or cervix *be fully dilated.* Nevertheless, it is true that the French writers (GALLARD, LEBLOND, GUICHARD, etc.,) reject this dilatation as not necessary.

A sense of heat, some pain, and a slight febrile movement, often follow an intra-uterine injection, and continue some hours. Should these symptoms not disappear, an anodyne poultice should be laid over the abdomen, and a moderate dose of opium or morphine be given.

Contra-indications. Any acute inflammation in or near the uterus is a *positive contra-indication* against the use of intra-uterine injections. Hence where there is cystitis, ovaritis, or perimetritis in an acute form, we must not have recourse to this means. It is also advised on similar grounds to avoid this form of medication during the menstrual epoch, and for a week before and after the period.

A marked uterine flexion is also held to be a contra-indication, inasmuch as the Fallopian tubes may be so displaced and dilated that the fluid may easily find its way into the peritoneum, giving rise to serious results.

Medicated Injections. One of the most successful agents in intra-uterine medication is "Dr. CHURCHILL'S tincture of iodine." According to the formula given by that author in 1864, it is made as follows:

123. ℞. Iodinii, ʒiiss.
Potassii iodidi, ʒss
Alcoholis, Oj. M.

This is used with great advantage as a stimulant, alterative, counter-irritant, caustic, and hemostatic. It has been very extensively employed in the New York State Women's Hospital. The internal os is thoroughly dilated, and the instrument used for injection is an ordinary hard rubber uterine syringe. The patient is strictly enjoined to keep her bed for a week after the injection. In chronic endometral disease, and after the removal of fibroids, etc., its action is exceedingly beneficial.

Dr. E. J. TILT considers *iodine* the safest agent to inject into the uterus. He recommends the employment of a one ounce india-rubber bottle with a pointed nozzle, fitting tightly into the end of a female catheter. The principal formulas he employs are:

124.	℞.	Tincturæ iodinii, Aquæ destillatæ,	āā	f.℥j.	M.
125.	℞.	Liquoris ferri subsulphatis, Aquæ destillatæ,		f.℥v f.℥iv.	M.
126.	℞.	Ferri perchloridi, Sodii bicarbonatis, Aquæ destillatæ,		℥ij gr.x f.℥iv.	M.
127.	℞.	Acidi chromici, Aquæ destillatæ,		℥ij f.℥j	M.

As a vehicle, glycerine is preferred by some, as it flows more slowly, and thus exerts the action of the agent for a longer time upon the uterine walls. As it is somewhat harsh when applied pure, it should be diluted. Oil of sweet almonds may also be employed. Dr. Liebman uses,

128.	℞.	Tincturæ ferri perchloridi, Glycerinæ,	1 part 10 parts.	M.

Nitrate of silver should not be used for intra-uterine injections, as even in weak solutions it gives rise to violent uterine colics, often of long duration.

The Swedes favor the *sulphate of copper*. Dr. Eckland of Sweden states that in the severer cases with ulcerations, hypertrophy and neoplasms of the papillæ, the best agent is sulphate of copper, with which, in dilute form (1:5 to 1:50). This author has had extensive experience, applying it by means of an applicator to the entire interior of the uterus, it being very efficacious, without being followed by any inconvenience, such as erosion of the mucous membrane, which is produced by some of the other agents employed.

Prof. James P. White, M. D., of Buffalo, in catarrhal metritis, prefers the following as a local application:

129.	℞.	Iodinii, Potassii iodidi, Acidi tannici, Glycerinæ,	℥i ℥ss ℥j q. s. to dissolve.

Dr. W. W. Wilkens, of New Hampshire (*Half Yearly Compend., 1876*), speaks very favorably of the following:

130.	℞.	Acidi carbolici crystal., Aquæ, Glycerinæ,	āā	q. s. to dissolve. equal parts. M.

This mixture will not cauterize or destroy tissue. It may be applied to a healthy mucous membrane without inflaming it; but it will stimulate to healthy action one already inflamed. It should be applied to the entire mucous membrane of the womb every week or ten days. As a rule, no pain follows its use, and it never causes metritis or has other dangerous sequelæ.

"Lugol's solution" of iodine in a concentrated form has been found efficacious by Dr. JOSEPH KAMMERER. His formula is:

131.	℞.	Iodinii,	1 part	
		Potassii iodidi,	2 parts	
		Aquae,	4 parts.	M.

Its use is chiefly indicated where catarrh of the uterus is combined with hypertrophy of tissue.

Where the surface is eroded with a tendency to hemorrhage, the same practitioner employs pyroligneous acid in its undiluted form, or else carbolic acid dissolved in an equal part of water. In those cases of hypersecretion where no erosions are visible, the following is a valuable astringent:

132.	℞.	Zinci sulphatis,	gr. x	
		Aquæ,	f.℥j.	M.

PLEDGETS (PINCEAUX).

These are small masses of cotton, charpie, sponge, or other soft and porous substance, which are moistened with the medicated fluid and applied to the inner wall of the uterus. They are inserted by means of various instruments, as the "applicator" of Dr. H. E. WOODBURY, of Washington, or that devised by BARNES.

The liquids used in this manner are *tincture of iodine*, *perchloride of iron*, solutions of *nitrate of silver*, and *nitric acid*. The last mentioned agent especially has given excellent results in the hands of a large number of practitioners, in the treatment of chronic endometritis. The slight pain which it produces and the rapidity of its effects make good its claim to be the most valuable of all applications in many cases of this malady.

The use of such pledgets is preferable to other means in the lighter forms of endometritis, where there is little or no hemorrhage, where the intra-uterine area is small, dilatation slight or absent, and the canal not tortuous. They should not be employed when inflammation is active.

CRAYONS OR PENCILS.

These are inserted into the uterine cavity and allowed to remain, the cervical canal being stopped by a plug of cotton. For example:

133. ℞. Iodoformi, ʒijss
Pulv. acaciæ,
Mucilaginis, q. s.
Divide into ten equal cylinders about one-and-a-half inches long.

These pencils are hard, resisting, and capable of being divided into pieces of any length; they should be preserved from light. They are used with advantage against superficial ulcerations of the uterus. They are introduced into the cavity and allowed to remain.

Nitrate of silver has been largely used in this manner. RECAMIER introduced the solid nitrate into the body of the womb by means of Lallemand's porte caustique. Dr. TILT prefers the porte caustique of Simpson, and leaves gr.v–x of the lunar stick to dissolve, provided the os be fully dilated.

Prof. PAJOT, (*Annales de Gynécologie*, 1877, No. 21,) takes a laminaria tent two millimetres in diameter, dips it in thick mucilage, and then rolls it in finely powdered fused nitrate of silver, and allows it to dry. He thus obtains an elastic crayon of the ordinary size, which may be introduced into the uterus without fear of breaking. He believes this means to be applicable to other cavities, and for other more powerful caustics.

The *sulphate of zinc* is also prepared in the form of crayons, twelve to fifteen centigrammes of the salt in each, for introduction in this form into the uterus; it is recommended by LEBLOND, and is considered by BARNES one of the most useful agents in uterine catarrh. (See page 107.)

Crayons of *tannin* have been used by some, but on account of their tendency to produce severe uterine colic and other accidents, they are not to be recommended.

OINTMENTS AND GLYCEROLES.

Dr. ROBERT BARNES remarks (*British Medical Journal*, January, 1873), that a most precious way of applying almost any medicinal agent to the interior of the uterus is in the form of an ointment or *pasma*. They can be introduced by means of a hollow sound, with a piston working in its centre, the "ointment positor." Where

grease is objectionable, glycerine, cocoa butter, cosmoline, vaseline, etc., may be used. Thus bromine, iodine, mercury, etc., can be safely applied.

In simple chronic endometritis, Dr. A. LEBLOND (*Traité de Chirurgie Gynécologique*, 1878), has employed the following with excellent effect:

134.	℞.	Cerati simplicis,		20 grammes
		Pulveris iodoformi,		
		Olei amygdal. dulc.,	āā	5 grammes.

In cold weather, the amount of oil should be increased.

Glyceroles of starch, tannin, and other substances, may also be employed.

CAPSULES.

The introduction into the uterine cavity of various medical substances enclosed in capsules has been suggested by Dr. E. P. SALE, of Aberdeen, Miss. (*American Practitioner*, June, 1875). They may be made of gelatine, and introduced in the same manner as pledgets.

POWDERS.

The insufflation of powders of alum, tannin, calomel, iodoform, etc., into the uterine cavity has been practiced by Prof. N. GUENEAUDE MUSSY and others. Several serious accidents have, however, resulted with most of these agents in this form, and except, perhaps, in the case of iodoform, there is no advantage, and an absence of safety in this plan of medication.

PESSARIES, OR INTRA-UTERINE TENTS.

These are usually of cotton, saturated with some medicated fluid, allowed to dry, and introduced by a probe or a positor. The internal os generally requires to be dilated before this can be done. A thread may be attached to the tent, by which it may be withdrawn after a few hours; or, it may be allowed to remain until thrown off by the action of the uterus,. which usually occurs within forty-eight hours (BATTEY).

RÉSUMÉ OF REMEDIES.

Acidum Carbolicum is used as a local application by PLAYFAIR (page 94).

Acidum Chromicum is advocated as a cauterant by Dr. TILT (F.126). Its application to the uterus sometimes produces the most severe vomiting, hence it is not very safe (TAIT).

Acidum Nitricum is one of the most efficient local caustics in many cases. For introduction into the uterus it is probably the safest of the fluid caustics. See pages 92, 101. The following method of using it is recommended by Dr. D. N. KINSMAN, as possessing advantages over any other (*Obstetric Gazette*, Nov. 1878): A piece of white wax smoothed down to the requisite size to enter the cervical cavity and given the proper curve, is dipped into the acid; a sufficient quantity adheres, for the purpose to which it is to be applied. The wax bougie is grasped with a pair of dressing forceps and passed into the cervix; applied in this manner there is no excess of acid to run over adjacent parts, while there is enough to act as a caustic or alterant.

Argenti Nitras is preferred as a caustic by many physicians.

Belladonna, internally, is recommended (F. 114).

Boracicum Acidum has been suggested as a useful agent.

Cupri Sulphas is used in Europe (p. 100).

Ferrum. The preparations of iron are used internally as tonics, and the tincture of the chloride locally (F. 128). TAIT warns against iron in any form in chronic metritis (See p. 96 .

Iodinium in several forms is in use by nearly all practitioners (F. 121, 123).

Iodoformum, although disagreeable to most patients, has been found an excellent application (F. 133).

Tannicum Acidum is an astringent of great value.

Veratria, in the form of ointment, is an efficient local anodyne (F. 116).

Zinci Sulphas was applied in undiluted form to morbid uterine tissues by SIMPSON. Others have preferred it more or less diluted and made into sticks.

EXTERNAL MEASURES.

Blisters are highly commended by Dr. ATTHILL. (p. 93.)

Massage of the Uterus. This has been recommended in uterine atrophy, chronic metritis, and chronic uterine catarrh, by Prof. G. ASP, of Helsingford (SCHMIDT'S *Jahrbücher*, Bd., 181,) and others. The proceeding, as stated by this writer, is as follows: The operator with one or two fingers in the vagina grasps the body of the uterus so that he can exert upon it a steady pressure, while the counter pressure is exerted by the other hand through the walls of the lower abdomen. If these walls are sufficiently loose and enlarged, by this procedure the uterus can be held between the fingers of the two hands, and gently pressed and kneaded. When the organ is displaced, it is usually necessary to correct the displacement before this method can be effectually used.

CERVICITIS (ULCERATION AND GRANULATION OF THE OS, ETC.)

ROBERT ELLIS, M. D., OF LONDON.

This author defines as follows the varieties of ulceration of the os, and what he considers the very best methods of treating them.

1. *Indolent Ulcer.* Cervix hypertrophied, of a pale pink color, and hard. Os patulous to a small extent. Ulcer of a rose red. Granulations large, flat, insensitive, and the edge of the ulcer sharply defined. Discharge: mucus, with a little pus, and occasionally a drop of blood.

Treatment. For a few times the caustic pencil—solid nitrate silver. Afterward, the solution of nitrate of silver in strong nitric acid.

2. *Inflamed Ulcer.* Cervix tender, hard, a little hypertrophied, hot and red. Vagina hot and tender. Ulcer of a vivid red. Granulations small and bleeding. A livid red border around the ulcer. Discharge: a muco-pus, yellow and viscid, with frequently a drop of bright-red blood entangled in it.

Treatment. Occasional leeching, hip-bath (warm), emollient injections. Then acid nitrate of mercury several times, succeeded by the solid lunar caustic, potassa fusa, or cum calce.

3. *Fungous Ulcer.* Cervix soft, large, spongy to the touch. Os wide open, so as to admit the finger. Ulcer large, pale, studded with large and friable granulations. Discharge: glairy, brownish mucus, frequently deeply tinged with blood.

Treatment. At first, the caustic pencil. Subsequently, nitric acid, solution of nitrate of silver, or acid nitrate of mercury; electric, or actual cautery.

4. *Senile Ulcer.* Cervix small, red, a little hard. Ulcer small, extremely sensitive, of a bright-red color. Granulations very small, red, and irritable. Discharge: a thin muco-pus.

Treatment. Potassa fusa, or strong nitric acid, with nitrate of silver once or twice at long intervals. The solid sulphate of copper, in pencil.

5. *Diphtheritic Ulcer.* Cervix of ordinary size, a little hot, dry, and tender. Ulcer covered in patches with a white membrane, adher-

ing closely, irritable, and readily bleeding beneath. Discharge: a thin acrid mucus, without pus, but occasionally tinged with blood.

Treatment. At first, electric cautery, potassa cum calce, or acid nitrate of mercury, two or three times at long intervals. *No nitrate of silver.* Subsequently, stimulating applications, tincture of iodine, or sulphate of copper.

DR. A. LEBLOND, OF PARIS.

This writer states that (*Traite Elementaire de Chiruagie Gynecologique*, Paris, 1878,) the treatment of the os and cervix by means of cauterizing agents is so prominent that it deserves to fix our attention. The caustics employed are directed (1) to the surface the os of and cervix, or (2) to the parenchyma. They have also been classified as (1) mild, and (2) energetic caustics.

In follicular ulceration of the surface of the os and cervix, a strong solution of *nitrate of silver* gives excellent results. The application produces a slight eschar, which is detached in five or six days, after which it may or may not be renewed.

When the ulcerated surface is red and softened with tumefaction of the cervix, the *tincture of iodine* is to be preferred on account of its resolvent properties; or, what in some respects is better, *iodoform*, which is at once an energetic cicatrizant and a local anæsthetic.

Bleeding ulcerations, with a varicose aspect, will be happily modified by a solution of *perchloride of iron* @ 30°. It should be repeated at the close of five or six days.

Obstinate ulcerations will sometimes yield in a satisfactory manner by application of a solution of *hydrate of chloral.*

135. ℞. Chloral hydratis, 2 grammes
Aquæ, 25 grammes.
The ulceration to be touched daily with this for some time.

When the ulcerations are swollen and fungous, a more potent caustic than those above mentioned is required. SCANZONI used *pyroligneous acid;* Dr. GALLARD, *crystallized acetic acid*, or *carbolic acid.* The first mentioned is the least painful.

Pencils or *crayons* of nitrate of silver, sulphate of zinc, perchloride of iron, iodoform, or other substances, may often be advantageously employed. Those of tannin are to be prepared as follows:

136. ℞. Tannin, 1 gramme
Pure glycerine, 1½ drops.
Rub together and roll into two crayons each 5 centimetres in length.

The most suitable formula for crayons of the other ingredients mentioned is the following:

137. ℞. Sulphate of zinc (or other agent),
Gelatine, āā 2½ grammes
Pure glycerine, 5 drops.
To make ten crayons of 6 centimetres each. Powder the gelatine and place in a capsule in a sand-bath. Add the glycerine and ten drops of water. Stir till melted and smooth. Add the zinc or other agent with a few drops of water if necessary. Mix carefully, then cool and mould rapidly into pencils.

In certain cases where there is simply morbid enlargement of the os (as sometimes in chronic metritis) without ulceration, this engorgement may often be reduced by inserting some *iodide of potassium* enclosed in a tampon of wadding. Placed in contact with the neck, this substance generally produces a slight ulceration which rapidly heals, and is followed by a diminution of the organ. After eight or ten days, it may be repeated.

In cases of vegetations and rebellious ulcerations, more potent agents are required. Of these *chromic acid* is ranked by some as one of the best. It produces a dry, yellowish eschar. The crystals are used, being applied directly against the part, until the whole of it is covered with the eschar. It is not uncommon for this application to be followed by vomiting and diarrhea, and precautions must be taken that as little of it as possible be absorbed into the system.

Caustic potassa, *Canquoin's paste*, *Vienna paste*, and *Filhos' caustic*, are other powerful caustics occasionally applied. They should be used with great caution. Dr. FILHOS' caustic is a solid form of Vienna paste, and is more manageable than it. *Nitric acid* is convenient of application, and has furnished good results. The *acid nitrate of mercury* is apt to extend beyond the diseased structures, and is said to leave troublesome cicatrices. It has, however, been especially recommended in syphilitic ulcerations of the os.

In that form of cervicitis accompanying chronic metritis, where the cervix is enlarged, infiltrated, softened, and generally more or less ulcerated, as well as in a later stage of the same morbid process, when the cervix is enlarged, thick and hardened, the *actual cautery* will usually furnish the best results. This may be

applied as the hot iron, the thermo-cautery, the galvano-cautery, the gas cautery, or the cauterizing pencils. The application of the red-hot iron is not at all painful. It is followed by an eschar which is detached after eight or ten days, leaving a healthy granulating surface, and is not followed by a contracting cicatrix. The iron should be nearly at a white heat in order to prevent the adherence of the tissues which takes place when it is at a dull red.

Of the other methods of cautery mentioned, the *cauterizing pencils* of M. BONNAFOND may be described. They are little cylinders made of powdered charcoal and nitre, as follows:

138.	℞.	Nitrate of potassa,	2 grammes	
		Powdered wood charcoal,	30 "	
		Gum tragacanth,	10 "	M.

Or, as follows:

139.	℞.	Nitrate of silver,	1 gramme	
		Wood charcoal,	28 "	
		Powdered acacia,	4 "	
		Water,	q. s.	M.

They are lighted at a candle and applied to the part; but as they are at once extinguished by the application, they are suitable only when superficial eschars are desired.

Cauterization by *ignipuncture* has been advised in this form of cervicitis when very rebellious. Filiform cauteries are used, and are inserted into the tissues to the depth of four to eight millimetres. Four to six punctures are made, distributed over the lips of the os.

After the cautery has been applied, the vagina should be washed with cold water, and the patient keep her bed for the rest of the day.

DR. T. GAILLARD THOMAS, NEW YORK.

The cardinal point is to look upon the ulcer as a local manifestation of diseased action in the cervix or body, which is the lesion to be treated. The ulcer is a symptom of a graver and more important morbid state, which must be kept in view. It often happens that one symptom of a disease so distresses the patient that the remedy must be addressed solely to it; as when the ulcer by its profuse discharge calls for prompt relief. When the ulceration results from inflammation confined to that part of the cervical tissue immediately underlying it, the relief of the

ulcer by the alterative and counter-irritant action of the means adopted, may effect the cure of the disease producing it, and the fact of the existence of such disease may not be recognized. "But when it depends upon the irritation of the discharges from the cavity of the cervix or the body of the uterus, or upon deep-seated areolar hyperplasia, cure is more difficult."

Caustics will be quite sufficient for ordinary granular degeneration, but when there are exuberant development of villi, so-called cock's-comb granulations, it is well to snip these growths closely by a pair of long-handled scissors, or even to scrape them off smoothly with a curette, and then apply the caustic. Of these, Richardson's *styptic colloid* is excellent. It is a direct alterative, and forms a protecting crust over the ulcer.

Where there is eversion of the cervix, the hemorrhoidal membrane may be removed as above, and the actual cautery, or the nitrate of silver applied. An excellent method of cauterizing these ulcers is the gas jet cautery of ACOSTA, of Paris. An ordinary rubber bag is filled with carburetted hydrogen from the gas jet; a blow-pipe is fitted to the end of a tube attached to the bag, the escape of the gas being prevented by pinching the tube. The bag is compressed, the gas ignited, and the tiny flame is applied through the speculum to the spot.

After such treatment the patient is to be kept in bed, and the parts copiously irrigated two or three times a day; glycerine, laudanum, or infusion of bran or linseed, may be used. In a week or ten days, according to the potency of the caustic, the slough has separated. If the surface appears healthy, the milder alteratives are to be employed, as a pledget of cotton, saturated with equal parts of glycerine and solution of subsulphate of iron, or glycerine f.℥vj and tannic acid f.℥ij. In addition, the patient should inject each night and morning a gallon of warm water, containing an ounce of glycerine and a drachm of sulphate of zinc; or two drachms of sulphate of alum, acetate of lead, or tannin, for ten or twenty minutes. Medicated suppositories may be used, of zinc oxide; or sulphate of alum, gr.iij; or ung. hydrarg., gr.x; or plumbi iodidi, gr. v; or acid tannic, gr.ij. And, as an anodyne, may be added to either of these: ext. belladonnæ, gr.j; or pulv. opii, gr.ss. These articles may be made into a mass with tragacanth, starch, slippery elm, and glycerine, and covered with cocoa butter.

When needed, the caustics may be repeated, but not too frequently, time should be allowed for the development of their stimulant effect; once a fortnight, or even once a month.

In follicular ulcer, evacuate the cysts and cauterize their cavities thoroughly by nitrate of silver, chromic acid, or the acid nitrate of mercury.

DR. LOMBE ATTHILL, OF DUBLIN.

The first step in the more acute forms of inflammation of the cervix is to relieve the congestion by puncturing the cervix. The point of the knife should penetrate from ⅛ to ¼ of an inch. When the lining membrane of the cervix is extensively implicated, the next step is to apply strong nitric acid freely to the whole interior of the cervical canal. The acid is introduced on cotton wrapped around a platinum probe, and care must be exercised that it does not touch the walls of the vagina. This may be followed after a few days by the *glycerole of tannin*, applied in a similar manner; or the glycerole may be used instead of the acid.

140. ℞. Acidi tannici, gr.x
Glycerinæ, f.℥j. M.

Thoroughly saturate a pledget of cotton with this, and then attaching a piece of string to facilitate its removal, introduce it up to the os uteri through the speculum, and leave it there for twenty-four hours. This is often productive of great benefit. If much irritation exist in the vagina, omit the tannin and use plain glycerine.

When the cervix is greatly engorged, œdematous, and covered with papillæ, sometimes the above procedures fail, and nothing promises relief but the total destruction of the diseased surface by *caustic potash*. Whenever this caustic is used, it should be applied through a glass speculum, and rubbed freely against the part; a pledget of cotton saturated in vinegar should be previously inserted between the lower lips of the os uteri and the edge of the speculum, so as to neutralize any of the potash which may escape; and the vagina should be washed out with vinegar immediately after the application. The patient should remain in bed several days. When much induration exists, the potash may have to be applied several times.

Milder applications are *nitrate of silver* and *tincture of iodine*. The latter seems to allay the backache so much complained of in these affections.

The actual cautery, either the hot iron or charcoal pencils (F. 137), are also valuable aids in obstinate cases. *Iodized cotton* may be introduced into the cervix as recommended by Dr. GREENHALGH.

DR. KŒBERLE.

In the *Annales de la Société de Médecine de Gand*, M. KŒBERLE prefers *chromic acid* as a cauterizing agent to the other remedies usually used, as pernitrate of mercury, iodine, nitrate of silver, and the actual cautery. He uses it in the crystalloid condition. It is a very anhydrous substance, and readily absorbs the moisture from the tissues which it may touch. M. KŒBERLE applies it through an India-rubber speculum on a tampon of cotton-wool. Vomiting often supervenes within fifteen or twenty minutes from the application of the acid. When the tissues are seriously altered, it is necessary to repeat the cauterization, but M. KŒBERLE has hitherto found three applications to suffice. After the application he applies a tampon, and advises the patient to use two soap-and-water injections daily. He treats all ulcerations of the os in this way, as in epithelioma.

DR. ROBERT BELL, OF GLASGOW.

This writer, in the *Lancet*, Aug. 10, 1878, describes a very successful and simple mode of treatment of those cases of papillary ulceration of the cervix, in which on examination the vaginal mucous membrane is found to be turgid and red, and unduly sensitive to the touch. The vaginal portion of the uterus is hypertrophied, and around the os the finger detects a sponginess of the mucous membrane, and the lips are everted. On introducing the sound, hemorrhage to a small extent is induced. The uterine canal measures three inches. The speculum reveals a granular ulcer extending both outwardly and inwardly from the external os. This has evidently been due, in the first place, to erosion of the papillæ, which, by continued irritation, has developed into this granular condition. The slightest touch causes it to bleed very freely.

The treatment commonly employed in such a case is the uterine douche night and morning, which the patient uses herself, while an application twice a week of a moderately strong solution of nitrate of silver is made by the physician.

Dr. BELL finds he can effect a cure in half of the time by another

method. All the discharge is wiped away by means of cotton-wool, and then *pure tar* is applied to the diseased surface on a pledget of cotton. This is allowed to remain in contact with the ulcerated part for twenty-four hours at least, when the patient withdraws the cotton by means of a piece of string which has been left for the purpose. The application is made twice a week, and in from two weeks to a month the cure is complete. The tar is made fluid by the addition of one part of rectified spirits to eight parts of pure tar. This application has another great advantage besides its healing properties: it acts as an anodyne; and then a further benefit is derived from the support which the pledget of cotton-wool gives to the enlarged uterus.

DR. ROBERTS, MANCHESTER, ENGLAND.

In *ulceration of the os*, this writer, while commending the *carbolic* application, does not consider the strong acid necessary in superficial ulceration. A mixture of one part of the strong acid with two of olive oil seems to answer all ordinary purposes; but in cases of very deep ulceration the use of the strong acid may be called for. In such cases, Dr. ROBERTS desires the acid to be liquefied by the addition of a very small quantity of water. This has not been found always to answer the purpose, but it has been noted that the addition of a *few grains of camphor* will dissolve the acid, and will, moreover, prevent it again becoming solidified, even at a freezing temperature. The application of the carbolic oil to the os uteri is best effected by soaking a little cotton-wool in the liquid, securing it by a string, and introducing it through a speculum, the string being left depending out of the vagina, and the patient being directed to pull it away on the second day. This procedure is repeated in ordinary cases about twice every week. If it be desired to apply the acid to the cervical canal, it may readily be done by passing in a gum-elastic catheter smeared with the carbolic oil.

DR. J. M. BENNETT, OF LIVERPOOL.

Interstitial Injection. In chronic cervical metritis (enlarged os, inflammatory enlargement and induration of the os), this writer (*Lancet*, Nov. 2, 1878), has tried with gratifying results the *interstitial injection of iodine.*

He first prepares the patient both generally and locally; the lat-

ter by relieving any super-engorgement by means of local depletion, carried out by means of cupping, the frequent use of warm water, and the application of glycerine, so as to induce osmotic action, care being taken to avoid the period of menstrual excitement. He then uses a simple modification of the hypodermic syringe, which is sufficiently long to be used with Ferguson's speculum; its points are made of eighteen-carat gold; and the other portion, which might come in contact with the iodine, bromine, or other agent inimical to any metal less resistant than gold or platinum, is mercurially gilt. The instrument should be charged with a solution composed as follows:

141.	℞.	Potassii iodidi,		
		Potassii bromidi,	āā	gr.x
		Tincturæ iodinii,		f.℥ss
		Aquam destill.,	ad.	f.℥ij. M.

He then either punctures through the speculum, leaving the uterus free if the os and cervix be very large and low down, or fixes it with Sims's tenaculum, using a duckbill speculum. He generally makes from three to five punctures, according to the amount of hyperplastic matter to be absorbed. A cotton pledget well soaked in glycerine is placed against the part, and rest enforced for at least twelve hours. Seldom more than three operations are required; and he has never found any disturbance of moment set up, either generally or locally, by the procedure; on the contrary, a number of cases turn out successfully when other methods have proved unavailing.

Internally he uses the *bromide of potassium* in large doses, both for the purpose of quieting excitement, and secondly of obtaining some of the benefits described by Prof. BINZ, of Bonn, who speaks of the potash salts as being positively specific in subinvolution; and he believes he has many times seen advantages derived from a continuous use of this salt, quite equal to those described by Dr. R. WILLIAMS, who attributed such wonderful powers to its action in splenic hypertrophy.

The above treatment can usually advantageously be joined to dilatation of the os by means of a sponge tent, after the first effect of the injections has passed off.

Richardson's Styptic Colloid. According to Dr. R. E. BEACH, of Illinois (*Illinois Medical Recorder*, Aug., 1878), in granular conditions of the os, Richardson's styptic colloid painted over the os

seems to produce good results. "It appears to act as a direct alterative, and by forming a protective crust over the surface, constitutes for it a shield against friction and uterine discharges, and by its constringing effects diminishes local congestion. (For the preparation of the styptic colloid, see Napheys' *Surgical Therapeutics*, sixth ed., p. 114.)

DR. HALTON, OF DUBLIN.

In the Dublin *Journal of Medical Science*, June, 1876, Dr. HALTON gives a number of cases, explaining his plan of treatment which consisted in producing local congestion by local means and touching the excoriated surface with the strong *nitric acid.* This was always carried into the cervix when that appeared diseased, and the acid brought in contact with the whole surface of the canal, and even to the fundus if necessary.* It never gave rise to the slightest symptom of danger or distress, and in the vast majority of instances was altogether unfelt. When pain did occur, its amount was so trifling as to attract little notice from either the patient or physician. Astringent injections were found to be of little use, and whether this was from the patient's awkwardness in managing them or not, they have been latterly dispensed with by him, and their place supplied by the tannin, pessary, or bougie placed in contact with the os or introduced into the canal. The skin of the abdomen has been leeched or blistered, as seemed most suitable, over the tender spot in the region of the ovary, with very marked benefit. When much leucorrhea was present, small blisters to the sacrum were found servicable, while ergot and Indian hemp were useful internally, particularly when hemorrhage was present; but, undoubtedly, the most generally effective drugs were strychnine, in small doses, in combination with dilute nitric acid. The following is the formula used:

142.	℞.	Liquor of strychnine,	f.℥iss	
		Dilute nitric acid,	f.℥ij	
		Tincture of gentian,	f.℥ss	
		Hoffman's solution,	f.℥iij	
		Water,	q. s. ℥.viij.	M.

The dose is one tablespoonful thrice daily, before meals. If pyrosis

* It is by no means necessary in all cases to dilate the os before touching the interior of the uterus with nitric acid. In many cases where this becomes necessary, the canal of the cervix is sufficiently patulous to admit the stillette covered with cotton-wool soaked in this agent.

is present, a drachm and a half of sedative liquor of opium added to the above for a week or two, taking care to regulate the bowels with suitable aperients, will be found serviceable.

MECHANICAL TREATMENT.

T. GAILLARD THOMAS, M. D., NEW YORK.

When eversion of the cervical mucous membrane is the result of injury, as in parturition, an operation is necessary. The edges of the fissure must be pared and approximated with deep sutures of silver wire.

A. J. C. SKENE, M. D., NEW YORK.*

Some preparatory treatment is generally required, before the operation can be performed. The cervix is usually found gaping, enlarged, eroded from pressure on the pelvic floor, and often in a state of cystic degeneration. In a bilateral laceration extending nearly, or quite, to the vaginal junction, the eversion of the parts is often so great as to require the removal of large portions of their surfaces before bringing them into apposition, or the tension on the sutures will be so strong as to cause them to cut into the tissues and prevent perfect union.

In these cases, about ten days before the final operation, bring the parts together, without any freshening of their surfaces, and confine them by means of a small piece of sheet lead on either side of the cervix, held in position by a silver suture passed continuously through both ends of the leads. Then tampon the vagina carefully with *marine lint*, which can be retained *in situ* for two or three days without becoming offensive, thereby protecting the surrounding parts from the chafing of the clamp. At the end of a week, remove the clamp. Three days later, operate.

The use of the marine lint tampon, above referred to, is, even without the clamp, of service in reducing the abnormal condition of the lacerated cervix.

He prefers the ordinary silk suture, as it cuts the tissue much less than silver wire. This is easily tied by using CARROLL'S *knot ties*, or by passing a loop of the Thomas *curette*, and making traction laterally with that, holding the other thread firmly in the fingers. For after-treatment the less they are interfered with, the better. Remove the tampon in forty-eight hours, and do not use the vaginal injection unless absolutely requisite.

* *Proceedings of Kings County Medical Society*, June, 1878.

TENTS FOR DILATING THE CERVIX.

The use of tents of any kind is not without danger. Serious maladies and death have at various times resulted from their insertion. Dr. T. GAILLARD THOMAS gives the following rules with regard to their employment:

Rule 1.—In the introduction of a tent, no force whatever should be employed. Should that first essayed not pass the os internum easily, it should be withdrawn and either bent so as to follow more accurately the course of the cervical canal, as ascertained by the probe, or exchanged for a smaller tent.

Rule 2.—A tent should never, under any circumstances, be introduced at the physician's office, and the patient allowed to go home with it in utero. Such practice is hazardous in the extreme. Even when introduced at the patient's home, she should at once be confined to the bed.

Rule 3.—The practitioner should always investigate as to the previous existence of chronic pelvic peritonitis, one of the most common of the diseases of women. Should it have existed, tents should be carefully avoided.

Rule 4.—A tent should never be allowed to remain in the uterus more than twenty-four hours; and, if it be compatible with the accomplishment of the desired result, it should be removed in twelve hours.

Rule 5.—After the removal of a tent, the vagina should be washed out with an antiseptic fluid, and if any pain, chilling or discomfort, follow the removal, opium should be freely administered and perfect rest enjoined.

Rule 6.—After the removal of the tent, the patient should be kept in bed at least twenty-four hours, and never allowed to travel before the expiration of four or five days.

Dr. TILT lays stress on the importance of examining the patient with a speculum in full daylight, to be sure nothing is amiss with her pelvic organs. A tent should only be introduced every third or fourth day, and at some days remove from the menstrual epoch. If much irritation is produced, the dilatation should be suspended. Vaginal injections should be used with great care at this, time as severe uterine colic may result from the fluid entering the dilated os.

Dr. B. S. SCHULTZE, of Jena, (*Central-blatt für Gynækologie*, Nov. 7th, 1878), uses sea-tangle tents with strict antiseptic precau-

tions, and having succeeded without an accident in several hundred cases, believes that if his method is followed the usual contraindications to dilatation of the cervix may be dispensed with. One principle of his procedure is the assumption that for safe dilatation the tangle tent must never come in contact with a raw wound surface. But, besides this, he takes the strictest antiseptic precautions that the conditions of the operation allow of. He first employs flexible copper sounds, of varying thickness, by which he ascertains the exact size and curvature of the cervical cavity. Having settled these points, a tangle tent, corresponding in thickness with the sound, which just passes the cervical cavity, is immersed for one or two minutes in boiling water, and being thus rendered flexible, the same curvature is given to it as that of the sound, which has been previously adapted to the cavity of the uterus. On cooling, the tent retains the curvature thus communicated to it, and after steeping it in a $\frac{3}{100}$ solution of carbolic acid, it is introduced through a speculum, the cervix being meanwhile held down by an assistant with a hook or vulsellum. If a drop of blood is seen coming from the cervix during any of these processes, the operation is to be postponed for at least twenty-four hours. The patient is to be kept strictly at rest during the whole time that the tent is dilating, and the strictest care is to be taken in the removal of the distended tent that no injury is caused to the cervix. The vagina and cervical canal ought to be then carefully washed out with a $\frac{3}{100}$ solution of carbolic acid.

It is remarked by Dr. W. GOODELL, that the danger of inserting tents increases with each introduction. Hence the importance of dilating the canal with one or at most two introductions. When sponge or laminaria is used, the cervix should be irrigated every few hours with a strong solution of table salt or of chlorate of potassa.

RÉSUMÉ OF REMEDIES.

AGENTS APPLIED TO THE OS.

Acidum Aceticum, in crystals, is said to be but slightly painful and very efficient. (See page 106)

Acidum Bichloraceticum, has been recommended by SCHMIDT & URNER. It is obtained by the action of chlorine on hydrated acetic acid under the influence of the solar rays.

Acidum Carbolicum, in crystals, is an efficient agent, and as it is also a local anæsthetic, the pain is less prolonged than with the min-

eral acid. GALABIN considers it the most widely useful of all applications for the cervical canal. The vagina must be protected and well-washed out after the application.

Acidum Chromicum is preferred by Dr. KŒBERLE for the reasons given (page 111). It is also a favorite with some American practitioners. Dr. ATTHILL says it is more irritating than nitric acid.

Acidum Nitricum is preferred by A. COURTY and others to any other caustic. Dr. ATTHILL has especially advocated it in Great Britain.

Acidum Pyroligneum was used largely by SCANZONI and the Vienna school.

Alumen, in powder, or ointment, or strong solution, or as burnt alum, has been occasionally employed.

Antimonii Chloridum is an energetic caustic, but of uncertain action.

Argenti Nitras has long been the most popular of all caustic applications to the os uteri. Dr. TILT observes: "I have no hesitation in saying it is the most valuable of all the agents that enable us to cure inflammatory affections of the reproductive mucous membrane." His usual solution is gr. xl to aquæ f.℥j. He applies it every four or five days when the os is red and sensitive, as well as when ulceration is present.

Bismuthi Subnitras. Dr. A. COURTY (*Maladies de l'Uterus*, 1866), considers this substance, insufflated upon the part, one of the most powerful modifiers of ulcerations of the os. It has also been very strongly recommended, made into a thick cream with glycerine, applied to ulcerations of the os. It may be conveniently introduced through a tube, and retained in place by a pledget of cotton.

Creasotum was formerly used, but carbolic acid has taken its place.

Cupri Sulphas is a favorite agent with the Swedish physicians. They claim it is curative, and not followed by troublesome sequelæ.

Ferri Chloridi Tinctura. For hemorrhage depending on a granular condition of the cervix, this is a valuable agent. It is best applied on a small roll of cotton saturated with it, another and larger roll wet with glycerine being placed outside it (ATTHILL). They should not be left over a few hours, or sloughing may ensue. ARAN applied to ulcers of the os the following glutinous compound:

143. ℞. Tinct. ferri chloridi ether.,
Collodion, āā equal parts. M.

Ferri Subsulphas has been largely employed as a styptic, especially in the form of Monsell's solution.

Hydrargyri Nitras. The acid nitrate of mercury is well spoken of by TILT and other practitioners. It must be applied with considerable care, so as to avoid injuring other parts, and a solution of bicarbonate of soda should be at hand to neutralize it. On the other hand, ATTHILL never employs it, and A. COURTY (*Mala-*

dies de l'Uterus, 1866) formally condemns it as difficult of management and liable to be followed by severe mercurial poisoning.

Iodinium. In ulcers of the os, iodine is not so effective as nitrate of silver (TILT), but when the latter disagrees, tincture of iodine is the best application. To the simple tincture Dr. GOODELL prefers the saturated ethereal tincture

Iodoformum is a soothing and healing application, principally objectionable from its odor and the unpleasant taste it imparts.

Pix Liquida has been employed by BELL. (P. 112).

Potassa Fusa. This is principally used in the form of *potassa fusa cum calce*, which is of two strengths, known respectively as,

FILHOS' caustic:

144. ℞. Potassæ fusae, 1 part
Calcis, 2 parts.
Melt together.

BENNETT'S caustic:

145. ℞. Potassæ fusae, 2 parts
Calcis, 1 part.
Melt together.

Dr. TILT says that in obstinate cases of unhealthy condition of the lining membrane of the cervix, in highly irritable ulceration of the cervix with soft hypertrophy, in pseudo membranous ulceration of the neck, and to establish an issue on the healthy mucous membrane covering a hard hypertrophied cervix, these preparations are exceedingly useful. Dr. ATTHILL finds the caustic potash eminently useful in those cases where the os uteri is in a state of granular erosion.

Potassii Iodidum acts as a moderate caustic in certain cases. (See page 107.)

Tannicum Acidum is frequently employed as a stimulating application. It may be made into a crayon by moistening with glycerine, rolling out, and drying.

Zinci Chloridum. This agent is a very painful one.

Zinci Sulphas. In the more chronic stages of cervical endometritis, solid points of fused sulphate of zinc have been introduced by Dr. BRAXTON HICKS, and are often useful, but are liable to cause considerable pain and irritation when any active hyperemia is present.

UTERINE TENTS.

Althea. The root of the marshmallow has been employed as a tent.

Cloth. Tents made of cloth were introduced in 1871, by Dr. V. H. TALIAFERRO, of Georgia, (*Jour. Gyn. Soc., Boston, Vol. V.*) and have been advantageously employed.

Corn-stalk Pith. In the *Transactions* of the Medical Association of Georgia, 1878, Dr. W. T. GOLDSMITH urges many reasons for

the use of this substance for tents. Take a joint of dried corn-stalk; strip it of its cuticle, and compress the pith, slowly and firmly, between the thumb and index-finger. By continued pressure, it is reduced to four or five times less than its original size. It has a dilating power equal to sea tangle or sponge. The corn-stalk tent is of easy introduction Its rigidity overcomes any slight resistance. Dr GOLDSMITH has used this tent for the last seven years. He has not had a single accident from its use, although he has introduced the tent many hundreds of times. The advantages of this corn stalk tent are that it dilates effectually, but not too rapidly. It is smooth, soft, and can be removed without force. It produces no lacerations, abrasions, or irritation of the mucous membrane. It can be medicated with any substance as easily as the sponge or cloth tent. It is of vegetable origin, and hence does not become putrid and poisonous to the patient, and it may be retained, non-compressed, for days without injurious results, if no pain occurs.

Gentian Root. French physicians have used this occasionally. It does well as a dilating agent.

Ivory, which has been softened by exposure to acids, is recommended by some. In twenty-four hours it swells to double its first size.

Laminaria or Sea Tangle. This aquatic plant swells, when moistened, to three times its size when dry. It has the advantage over sponge that it contains no animal matter, and emits no fetor. When perforated from end to end as recommended by Dr. GREENHALGH, such tents dilate rapidly and also allow the fluids of the uterine cavity to escape. They cause, however, much severer pain than sponge, and run a danger of tearing a resisting os. Mr. TAIT disapproves of them for these reasons.

Slippery Elm Bark. This substance is praised by Dr. WM. GOODELL as a material for tents. Though of less expansive power than laminaria or sponge, it may be left in longer as it softens down, and becomes dissolved by the discharges. It is of especial value in cases requiring no very great dilatation, but a prolonged treatment, such as in flexions.

Sponge. This is the substance preferred by many for tents. Its expansive power is considerable and it is easily adjusted to the size and shape of the neck. But it produces a fetor which is but partially overcome by treatment with carbolic acid and irrigation of the vagina. TAIT prefers sponge tents, impregnated with oil of cloves, but adds that even with these there is some risk of infection, and to secure entire immunity recommends that the tent be enclosed within an elastic capsule.

Tupelo. The root of the tupelo tree, *Nyssa multiflora*, has been advocated by Dr. G. E. SUSSDORF, of New York city. It is light, smooth, and its power of absorption is said to be greater than that of sea tangle.

OTHER MEASURES.

Galvanism. In ulcerated os with leucorrhea, Dr. O. E. HERRICK, of Greenville, Michigan, writes to the *New York Medical Record*, 1879, extolling this line of treatment. He introduces a pessary, made of a ring covered with rubber and supported by a Y-shaped support of twisted silver wire, held up by a perineal band. Outside, and held up by the waist-band, is a small plate of zinc, enclosed in a a chamois-skin bag with a sponge moistened with vinegar. The zinc plate is united to the silver wire of the pessary by a copper wire, thus making a complete galvanic battery. In one patient, in thirty six hours after the galvanic attachment was made, he found healthy granulations instead of the unhealthy ulcer; and the leucorrhea had stopped almost entirely, which had not taken place for a year before. In one week, there was neither ulceration nor leucorrhea; he then removed the copper wire and zinc, but left the uterine supporter a week longer. The patient was discharged cured, and remained so after the removal of the apparatus.

Local Blood-letting. Prof. J. Y. SIMPSON says frequently where there is engorgement or hypertrophy, the abstraction of two or more ounces of blood greatly relieves the stress from which the patient is suffering. and aids in the beneficial results from other remedies. This may be effected by leeches applied to the cervix through the speculum, or by scarifying around the os with a tenotomy knife with a long stem. It is well to make the patient sit over a dish of hot water to favor the flow, and then apply a warm vaginal douche, taking care that the patient is not wetted and chilled during the process.

DISPLACEMENTS.

PROF. E. J. TILT, LONDON.

Displacements of the uterus would seldom require mechanical treatment if the congestion, and other affections were properly treated. It is bad practice to employ mechanical measures prior to the cure of inflammatory lesions. This, by diminishing enlargement, will likewise relieve displacement. The stem pessary will not be borne, when the cervical mucous membrane is inflamed. When the displacement is congenital or of long standing, the cure of the inflammation does not correct it, but by a tonic treatment, with opium suppositories at night, astringent injections, and electricity, many are enabled to perform their household duties. Always make light of displacements to the patient, as otherwise fright interferes with the cure.

Retroversion and anteversion depending greatly upon relaxation of the vagina, astringent injections prove of value, as strong solutions of alum, sulphate of zinc, or tannin. Aid is obtained by suppositories containing alum, iron alum, tannin, or matico. A good plan is to enclose in cotton wool a small lump of alum, the size of a hazel-nut, tie round it a string long enough to hang out of the vagina, then place the alum ball as high as possible in the vagina. The wool imbibes the fluids, the alum gradually dissolves and acts powerfully on the vaginal walls. Remove the wool next day and irrigate the vagina freely to remove the coagulated mucus, prior to a second application. Cold vaginal douches are often useful, applied twice a day, for fifteen or twenty minutes. Douching the loins, while the patient is perspiring from a vapor bath, often relieves the pains of displacements.

Prolonged repose is hurtful, though rest for a few hours daily in the recumbent posture will diminish pain and congestion. Consider the periods of menstruation as seasons of disease, and enforce complete rest, with the use of hip baths and large abdominal poultices. Parturition generally greatly modifies and even cures uterine displacements. They are then mechanically rectified, and the active nutrition furnishes sounder tissues. Hence, after parturition, in such cases keep the patient on her back longer than

usual, and employ twice daily after the red lochia have ceased, astringent injections, and continue them for months.

When adequate improvement does not follow constitutional treatment, mechanical means may be employed. The womb may be placed at rest by a hypogastric bandage with a vertebral support. It takes off the pressure of the intestines. Prolapsus and procidentia may be greatly relieved by the styptics as above.

In case of complete prolapse, when the womb can not be replaced, its volume may be diminished by scarifications and lead lotions, or when necessary by strapping it with strips of adhesive plaster until its size is reduced. Then, with the patient in the genu-pectoral position, the surgeon may force the womb back into the pelvis.

Globular pessaries of boxwood or vulcanized rubber are often useful, and may gradually be reduced in size, till they can be omitted. The air pessary will often give great relief, even though it does not cure the displacement.

All pessaries should be occasionally removed and cleansed.

A pessary made of rubber covered watch-spring is easy of introduction and tends to counteract the relaxation of the vaginal walls. A heavy prolapsed womb is well supported by Coxeter's gutta percha pessary, which resembles a funnel, the mouth covered with thin vulcanized rubber on which the womb rests. This membrane is pierced with holes to permit the secretions to drain off freely. Another by Coxeter has a spring which distends a thin rubber cup which supports the womb; the lower end is fixed in the perineal band, so that the patient can remove or draw it aside. Bourjeaud's mushroom pessary is made of vulcanized rubber and may be inflated by a tube after it is placed. When distended, it is well calculated to support the neck of the womb in the depression in its upper part. It is secured by elastic bands fastened to an abdominal belt. It has two advantages, its size may be regulated, and it diminishes vaginal irritation.

In complete prolapsus, the tow-pessary may be employed. The vagina, after replacement, is packed with carded oakum, called "antiseptic marine lint," or with chloralum cotton wool. The vagina is allowed a limited power of contraction, the pressure does not cause pain, and the pessary is not readily displaced, nor does it interfere with the functions of the surrounding organs. The plug should be replaced weekly, less being required each time.

This is highly praised by Dr. COPEMAN of Norwich and Mr. MORGAN of Litchfield.

Various plans have been proposed to narrow the vagina, and thus cause the womb to be retained.

Dr. MARION SIMS cuts off slips of mucous membrane at appropriate distances, and brings the cut surfaces together by silver sutures.

When old adhesions prevent the reposition of the womb, EDWARDS of Denbigh and others propose its removal. In three-fourths of these cases, the operation has been followed by recovery.

For uterine flexions, Dr. GOODELL, of Philadelphia, introduces into the cervix a powerful dilator and forcibly dilates it, so as to crack the circular fibers. This is done under ether, and is claimed to be very successful.

LOMBE ATTHILL, M. D., DUBLIN,

In retroflexion believes that where a pessary can be borne, its action will aid the cure. He prefers Hodge's lever pessary with transverse bars; or Dr. Greenhalgh's spring pessary, which is made of copper wire bent like the Hodge pessary, cased in rubber tubing; but the wire is wanting at the lower or wide end, the tubing alone crossing there. A double advantage is that the tubing here adapts itself to the parts and does not irritate the neck of the bladder, and also it permits the sides to close during introduction. Great care is requisite in adjusting the pessary as to its size. When too large it causes pain, when too small it slips out. Stem pessaries are especially useful in dysmenorrhœa with retroflexion. The best is Greenhalgh's flexible pessary; the stem is of rubber tubing, admitting an ordinary sound, which must be passed into it when being introduced. Near the upper extremity is a bulb with four slits in it, through which the secretions escape, the lower extremity terminates in a shield.

Stem pessaries should never be left in longer than a month, and should be avoided if possible.

Bear in mind that cases are often met with which seem to cause no distress, and should not be interfered with.

Retroversion is rare, and is generally connected with pregnancy and usually occurs at the close of the third month, causing retention of urine; on emptying the bladder, a globular body will be found occupying the hollow of the sacrum, while the os uteri is

high up behind the pubes, and the fundus will be found absent from its proper place.

Two indications are to keep the bladder empty, and to restore the uterus to its normal position. In these cases always use a long gum catheter. If the attempt to restore the womb cause great pain, it is better to wait a few hours, and calm excitement by a suppository of morphia. Place the patient on her side, or better in the genu-pectoral position, and with two fingers in the vagina press the fundus up laterally so as to avoid the sacral promontory. In case this fails, introduce a Barnes' rubber bag into the rectum, distend it with water, and at the same time make pressure with the fingers in the vagina. Should all such efforts fail, abortion must be induced or death will result. After the reduction has been accomplished, the patient must be kept at rest, the bladder carefully emptied at proper intervals, and if the uterus again tends to fall, this must be prevented by keeping her in the recumbent position.

Anteflexion is very common, and is generally the result of congestion, etc. Puncturing the cervix will alone often give marked relief. The fundus can be raised by means of the sound, and supported by the stem pessary.

Prolapse of the uterus must not be confounded with cystocele, with which it is often complicated. Absolute rest in the recumbent posture, even with the lower part of the couch elevated, is very useful, but after all, it is only palliative. Some support is required. The best is Hodge's pessary, a wide one with transverse bars. These bars prevent the anterior walls from prolapsing. Dr. GODSON, of St. Bartholomew's, has invented a pessary with vulcanite wings, which are movable. The wings are closed on introduction and then expanded by bringing the metal feet together, where they are locked. This should be removed and replaced night and morning. In cases with large protrusion and greatly relaxed perineum, operative means must be employed to narrow the vagina. Sims removes a portion of the mucous membrane in the shape of a V from the anterior wall, the apex near the bladder, and the arms extending either side of the cervix. This opening is closed by means of wire sutures. In certain cases, it may be useful to repeat this procedure on the posterior wall.

Where the cervix is very long, relief may be obtained by its amputation by means of the écraseur.

Inversion of the uterus is rare, and generally occurs soon after delivery. In all cases, its reduction should be attempted by the taxis, under chloroform. Should this fail, continuous pressure exerted by a rubber bag in the vagina, inflated, and retained by a bandage will reduce it.

All failing, it should be amputated by means of the écraseur.

THOS. ADDIS EMMET, M. D., NEW YORK.

In all versions, correct the displacement by mechanical means, and relieve the local cause of disease. The latter should consist in the frequent and continued use of hot water injections, etc. This gives tone to the blood-vessels.

A retroverted uterus may be lifted into place by the use of the index finger and is the most reliable means we can employ. It is attended with the least risk and we are able to appreciate at once, in case of adhesions, the point and extent of resistance. The patient is to be placed on her back, the knees flexed, the hips drawn down to the edge of the couch. The index finger is introduced into the vagina, and the point of a tenaculum hooked into the posterior lip within the os. By this the organ is drawn toward the outlet so that the fundus may clear the promontory. This manipulation must be done with care, and if great pain is caused, it must be suspended. This manœuvre causes a still greater retroversion; to correct this, the perineum is to be pressed firmly back, that the finger in the vagina may be passed up far behind the uterus so as to lift that organ. The fundus thus elevated, the cervix is to be suddenly carried in an arc of a circle, downward and backward by means of the tenaculum. The version completed, the fundus can by the finger be pressed up against the uteri-sacral ligaments. These gape as the tension is relaxed by carrying the cervix backward, and the fundus slips between them. The finger is to be quickly passed from the posterior cul-dé-sac against the anterior lip, the tenaculum withdrawn and the womb thrown forward by passing the finger repeatedly down the anterior face of the uterus, so as to press the cervix downward and backward into the hollow of the sacrum. This operation, especially when it has caused much pain, should be followed by a hot water injection, and a glycerine dressing in the vagina, and several hours' rest.

On the subject of PESSARIES this author says: In adjusting a pessary great regard should be paid to the shape and size of the

vagina, as scarcely two women could be benefited by the same instrument. The object is to restore the uterus to its proper place, and thus completely establish the circulation. Raise the uterus gently on the tip of the finger, until the patient expresses a feeling of relief from all feeling of fullness and bearing down. This is to be the guide. The pessary is then to be fitted so as to maintain the womb at this point. When the instrument fits properly, and has corrected the malposition, the patient should be unconscious of its presence. The largest number of cases will be relieved by some modification of Hodge's closed lever pessary. All outside appliances should except in extreme cases, be avoided. The instrument should, remain unchanged for months, while the parts are recovering their tone. Block tin rings made of an alloy of tin and lead in such proportions as to be easily moulded, and yet unyielding enough for the pessary to keep its shape, make the best. The support for the instrument is to be taken from the bottom of the posterior cul-de-sac. Hard rubber may also be used for the same purpose. To receive the full benefit, the vaginal outlet should not be too large, and the posterior cul-de-sac should be of a natural depth. "The fulcrum of this double lever rests on the bottom of the cul-de sac, and in front against the posterior wall of the vagina. It should be curved at one extremity with reference to the shape of the cul-de-sac and posterior wall, and bent at the other end in the opposite direction with a lesser curve, so that it will be balanced, as it were, in the vagina." When the patient stands, the weight of the uterus will be thrown on the short lever forming the long curve in the posterior cul-de-sac. This causes the other end to rise and rest against the anterior wall of the vagina near the neck of the bladder. In the horizontal position, the weight is removed, and the long lever rests in the axis of the vagina. By thus adjusting itself, it cannot press so as to cut into the vaginal tissues.

The pubis should be avoided as the chief point of support, if possible; but this must be, when the anterior wall of the vagina is shortened by reason of an old retroversion, and where prolapse of the posterior wall occurs from perineal laceration. An operation here becomes necessary. But for a temporary pessary, the only point of support is behind the symphysis. Under such circumstances, the instrument must be wider below, and with the greater curve at this end, that downward pressure may crowd the

other extremity up behind the pubes. Here a depression must be made to receive the neck of the bladder. The general laws for all pessaries are, that the instrument shall be small enough to admit the finger between it and the vaginal wall at any point while the patient is on her back; it must be large enough to support the uterus, and yet allow the vagina to regain its normal size. To get the length for a pessary, the patient being on her back, pass a whalebone stick or any blunt instrument along the index finger into the posterior cul-de-sac, and measure from behind the pubes. Next, to get the proper curve. In retroversion, a longer curve is needed than when there is only a prolapse. Here the upper part of the vagina is more dilated than below, to which the instrument must conform, but not with so abrupt a curve as to press directly against the junction of the vagina, but beyond it, otherwise the circulation in the neck and womb is hindered, engorgement and erosion follow.

Where there is thickening of the posterior wall and retroversion, the curve must be such that it will pass far beyond into the cul-de-sac. This extremity must be rounded gradually, and not be made too narrow for its length. In cases where the thickened edges of the ligaments are very sensitive, this must be removed by hot water injections, and the free application of iodine to the cul-de-sac every third or fourth day, and to take off the pressure, the recumbent position should be maintained. To allow of exercise, temporary support may be given by a cotton pessary, shaped like a large mushroom, and placed in front of the cervix. This is made by pressing a square pledget of damp cotton between the hands, and folding the corners towards the centre until a ball is formed of the proper size; then holding the extremities between the fingers, a stem is made by wrapping cord between the ends and the ball portion. This, saturated with glycerine, will readily support a prolapse.

When the cul-de-sac is absent or very small, a straight or flat pessary is used, fitted to receive support behind the symphysis, and put the vagina on the stretch so as to carry the uterine neck so far back as to make an anteversion. This must be watched lest it cut into the tissues. The shorter the vagina, the straighter must be the instrument, lest it rotate and remain across the axis of the canal. It must be wider in the middle than a curved one, in proportion to its length.

There is also a hollow rubber disk, which is useful in place of the cotton pessary where glycerine is not to be used. It is most useful where tenderness prevents the use of the ordinary form. To prevent pressure on the urethra or any tender point, a sulcus may be made by passing a small elastic band once or twice around its thickness. It may be placed in front or behind the uterus as occasion may demand. It prevents the sagging of the uterus in the pelvis. As rubber causes an offensive discharge by long retention, it is only temporary and should be removed at night, or when not needed, as in exercising.

Sponge must never be used as a pessary.

In *flexures* of the uterus, this author says as soon as the true condition is appreciated, the intra-uterine stem will be abandoned, as also the practice of dilating with steel sounds or sponge tents. The use of either is faulty in theory, without permanent benefit, and always dangerous. Where flexure is below the vaginal junction, surgical aid may be useful. The proper time is shortly after the menstruation, and the incision should be made backward. In flexures of the body of the womb, hot water injections will give tone to the vessels. Iodine should be frequently applied to the canal by the applicator bent to a curve corresponding to the flexure. When the uterus is enlarged, and the cervix hard, the acetic solution of cantharides should be applied to the neck after each period, to produce a blister. This relieves the congestion and acts revulsively and also produces uterine contractions. Glycerine on cotton must be used daily, and ergot with tonics given internally. It must be continued for a long time and not in doses to cause irritation of the stomach or marked uterine pains. When absorption of tissue has left a permanent deformity, and there is no cellulitis, it is well to open the passage in order to prevent dysmenorrhoea. The posterior lip is to be divided backward, and a triangular portion raised and removed. Though occasionally successful, yet it often fails and there is a return to the old condition.

Where *procidentia* exists, to such a degree that the pessary can not retain it, a surgical procedure becomes necessary. The object is to reduce the size of the vagina, which is accomplished by taking in a plait.

In obstinate cases, this author anteverts the uterus with the finger as the patient lies on her back, the neck of the womb is

crowded into the posterior cul-de-sac by a sponge probang held by an assistant. He then seeks a point about half an inch to either side of the cervix and a little behind the line of the anterior lip, which two points can be drawn together in front of the uterus by a tenaculum in each hand. The surfaces are denuded and a similar surface in front of the uterus. A needle armed with a silk loop is passed beneath each freshened surface and they are brought together and held by a silver wire attached to the loop; the folded surface is denuded below and the joints united by sutures.

THOMAS EDIS, M. D., OF THE MIDDLESEX HOSPITAL, LONDON.

This writer observes that the genu-pectoral position proves of much service in all cases of retroversion and retroflexion, more especially when metritis also exists. In a short time patients become accustomed to the posture, and will say that they can get more relief in one hour by resorting to this method than by lying down in the ordinary position for several consecutive hours. The uterus falls forward in the abdomen, pressure posteriorly being thus removed; the distressing pain in the back, frequently complained of in these cases, disappears within a short time. In many instances, where a Hodge's pessary cannot be tolerated under ordinary circumstances, by resorting to this position for a quarter of an hour occasionally during the day, the instrument can be worn with comfort. The genu-pectoral position, also, offers manifest advantages in the replacement of the retroverted gravid uterus; also in pressing the uterus up beyond the pelvic brim in cases of impacted fibroids. In cases of prolapsus and subinvolution, much may be gained by adopting this position. In the morning sickness of early pregnancy, and in cases of prolapse of the ovary, considerable relief may be thus obtained.

DR. JOHN WILLIAMS, OF LONDON.

Chronic inversion of the uterus frequently demands surgical interference for its relief. In some cases, however, success may be achieved by the use of the repositor, or by *elastic pressure*. An instance of the successful employment of the latter is described by Dr. JOHN WILLIAMS, of London (*Obstet. Journal*, April, 1879.) A cup of vulcanite mounted on a metallic stem, having a perineal curve was introduced. The cup was applied to the inverted

fundus, and to the ring at the end of the stem were fastened four elastic bands, two of which were carried anteriorly between the thighs in front of the abdomen, and fastened by tapes to a broad strap of adhesive plaster placed round the waist, the other two elastic bands were carried posteriorly and fastened by similar means to the adhesive strap in such a manner as to cause the force exerted upon the fundus uteri to act, as far as could be judged, in the axis of the brim of the pelvis. There was some systemic and local reaction to the use of this apparatus, but after the first day no pain was complained of, and in two days the uterus reverted to its normal position and the cup was withdrawn.

PROF. MONTROSE A. PALLEN, M. D., OF NEW YORK.

In cases where there is so much tenderness of the uterus and vagina, that an ordinary pessary cannot be worn, this gynecologist is in the habit of daily reducing the version by placing the woman in the genu-pectoral position, and lifting the perineum so that the vagina becomes ballooned and the uterus falls into the axis of the inlet, which is kept in position by introducing into the anterior and posterior arches of the vagina sufficient thymolized clay* to fill the upper third of the canal; the lower two-thirds being padded with soft cotton. This makes a perfect pessary-support, retaining the uterus, bladder, and rectum in normal relationship. Prior to the next visit of the physician, the patient removes the cotton, and washes out the thymolized clay, when the same process is undergone again. It is remarkable how rapidly some patients yield to this process of treatment. In many instances in pregnant women, it is necessary to continue this method of procedure until the uterus rises from the excavation, lest abortion ensue in consequence of jamming under the sacral promontory in retroversion, or cystitis develops because of the constant hyperemia engendered by superincumbent uterine pressure.

DR. J. R. KIRKPATRICK, OF DUBLIN.

This writer (*Dublin Journal of Medical Science*, Feb. 1879), lays down the following:

Rules for the use of Pessaries, the strict observance of which, he states, will tend much to the safety and comfort of patients,

*See under *Pruritus of the Vagina* for the Formula.

and prove the surest safeguard in preventing all the accidents arising from the use of pessaries:

1. In no case should a physician use a pessary without telling his patient that he has done so.

2. That inasmuch as a pessary should give rise to no pain or uneasiness whatever, after its introduction, the patient should immediately come back, in the event of any such symptom occurring.

3. She should return to have the instrument examined or removed, not later than six weeks or two months.

4. That, in the event of any sensation of heat, pruritus, or irritation of the vagina, or the occurrence of any discharge, colored or otherwise, or any offensive smell, she should at once present herself to the doctor for examination.

5. The daily use of a vaginal injection of tepid water, or of some mildly astringent wash, will have the most beneficial effect in arresting the first symptoms of vaginal irritation. If the patient be wearing a Hodge pessary, she should be warned to use gentleness in introducing the pipe of the syringe, lest the instrument might be displaced. A patient need not be afraid of using an injection of simple warm water, even during the menstrual flow. This conduces very much to her comfort at the time, and the retention of any of the catamenial fluid is very apt to prove a source of irritation.

6. If the vulva is much dilated from procidentia of the womb, it is well to keep the patient in the horizontal position for some days, whereby the womb will be kept up, and the vaginal orifice have time to contract before the introduction of the pessary; for, although the introduction of a disc or globe pessary may be accomplished with great facility, its removal afterwards may become a matter of great difficulty, owing to the contraction of the vaginal orifice, consequent upon the womb being kept *in situ*, and no longer distending the parts.

HOSPITALS OF PARIS.

A local treatment of *Prolapsus uteri* has been recommended by some Parisian surgeons (*La France Medicale*, July, 1879). The surgeon takes pure tannic acid and makes a *concentrated* solution of it in water, *at the moment of using it.* A score of little balls of charpie are made, and are allowed to soak thoroughly in the solu-

tion. A brush (camel's hair), with a long handle, is to be in readiness. The woman being in a suitable position, a speculum is introduced into the vagina which reduces the uterus, or the reduction may be effected before its introduction. The brush is then dipped in the tannic acid solution, and being carried through the speculum, the uterine neck and the whole internal surface of the vagina is several times freely bathed, the speculum being withdrawn little by little, but re-introduced afterwards to pack the balls of charpie soaked in tannin in the uterine culs-de-sac, by means of a long pair of dressing forceps. The culs-de-sac are thus firmly packed, and the speculum being gradually withdrawn, the whole cavity of the vaginal canal is filled with these same balls, and the vulva is closed by a charpie tampon, which is externally supported by a compress. Complete rest in bed is observed, and twenty-four hours after its application the charpie is gently withdrawn, pellet by pellet. Cold vaginal injections, composed of a strong decoction of dried oak bark, are then prescribed, to be used three times a day. Before each of these injections the womb should be restored to position. At the end of two or three days at most, this operation is repeated, and so on, increasing little by little the intervals between the applications of the dressings; and even after it is thought that a cure has been obtained, the injections alone should be continued for fifteen days or so.

The proceeding is very simple, inexpensive, applicable at all times and in all places, necessitating neither special apparatus nor substances difficult to procure, nor traumatism of the genital organs; it is entirely painless, very easy of application, even for the most inexperienced physician, and secures at the end of some months an absolute and veritable cure of uterine prolapse.

PROF. ELLERSLIE WALLACE, M. D., PHILADELPHIA,

Employs a curved sponge-tent, reinforced by a steel spring. The spring is introduced within the interior of the tent, and by its tendency to resume its original form after being bent in the reverse direction, acts to lift up the bent womb. The theory is not that of effacing the curve by dilatation, but the principle is that by the erection of the tent, by virtue of its elasticity, the curve of the uterus is effaced by the gentle, yet powerful, action of the tent as a lifting force, which elevates the fundus of the uterus from its abnormal position. The first tent should be of small size and with-

out a spring, because the bulk of the sponge would not be sufficient to hold the spring to its proper curve. In making these tents, the sponge should be elastic and moderately close-grained. A cylinder, free from large cavities, is to be cut from it, corresponding in length to the uterine cavity, and having in its long axis a gentle curve, similar to the natural bend in the womb. This cylinder is to be a little thicker than the thumb, but may vary in proportion to the effect desired. Wash it well, and trim it smoothly. Next, make an opening in the centre from one end almost to the other, and pass into this a piece of watch-spring ½ an inch shorter than the tent, and with an eye at each extremity. The spring is fastened by a silk thread passed through the sponge and the eye, around the cylinder and again through the eye, and tied tightly. The other end of the tent and the eye are transfixed by a stout needle. The tent is then soaked in a thick solution of gum-acacia, then wrapped closely with strong twine from one end to the other. It may now be moulded into any desired curves. A sound bent to the shape of the uterine cavity is laid on a piece of wood, and its course marked by tacks. The moist tent is then put into the place of the sound, and allowed to dry there. The needle indicates the position of the spring.

The hard dry tent is removed and the twine unwound. It must now be smoothed by fine sand-paper and the end bevelled, but not to a point. Rub it with wax and burnish it with any hard instrument. It is completed by passing a string through the opening occupied by the needle. This is for convenience of extraction, and also aids in securing the spring in the centre of the tent. As a rule, three curves will be all that will be required. Those most used are a moderate curve, only a little more than the natural uterine bend; a fish-hook curve for extreme cases; and an intermediate one, which will probably be most required.

ALBERT H. SMITH, M. D., PHILADELPHIA,

Has materially and usefully modified the lever pessary of Prof. Hodge. He lengthens the closed lever so that its length is about twice its width; he makes it ovoidal, with the apex in front, curves the anterior bar from above downward, and curves the posterior bar upward. He claims that it is easily retained in place, its length and ovoidal form adapting it to the shape of the vagina, which is conoidal, with its base toward the vaginal cul-de-sac, while on the

contrary the rectangular pessary cannot be accommodated and retained; the curvature of the posterior bar takes away the sharp angles behind, and the centre of the bar resting directly behind the lower portion of the body of the uterus, allows it to hang over it, suspended by its vaginal attachment, without undue pressure upon the vaginal tissues, as from the straight bar the depression of the anterior bar rounds off the corners which rest against the vagina, and relieves the urethra from pressure.

Dr. S. claims as the merits of the lever pessary its ease of introduction; its deriving its support from the floor of the pelvis, making no tension of the vagina, acting as a true lever, its fulcrum being the pelvic floor, the weight—the uterus—resting upon the short arm, and the power acting on the long arm, being the elasticity of the anterior vaginal wall, the weight of the intestines, and the action of the abdominal muscles; these two latter forces, which would operate upon the uterus to keep it displaced, being utilized to elevate it; preserving the natural mobility of the uterus; making no pressure on the neck, acting so as not to interfere with the functions of reproduction.

Perhaps not the least useful relief is that noticed by pregnant females when wearing this pessary, the absence of extreme nausea. Dr. Smith believes this point is one calling for clinical study.

EUGENE C. GEHRUNG, M. D., ST. LOUIS,

Has invented a pessary which strongly resembles a Hodge closed pessary folded on itself. The two arches thus formed rest against the anterior wall of the vagina; the lower one resting near or upon the os pubis, according to the degree of tonicity of the vagina, from which point it derives its anterior support. The lower branches of the lateral curves rest on each side of the vaginal aperture in an antero-posterior direction on the vaginal surface of the perineum. These prevent the instrument from rotating on the transverse and antero-posterior axis. An additional support is gained by the contact with the elastic vaginal walls and their close coaptation to and insinuation between the arches and curves of the pessary. It rests within the vaginal grasp as a segment of a solid cylinder would rest in the grasp of an elastic one. Hence there is no obstruction of the vaginal space. The distance between the two arches varies from 1¼ to 1½ inches. The

antero-posterior and transverse diameters vary as the size of the instrument.

The pessary is introduced with the patient on her back, the knees well flexed and separated; and the curves so placed that the instrument shall rest in the position at first described.

Dr. GEHRUNG claims that few cases of *anteversion* can resist its action, when well-fitted, unless firm adhesions confine the womb to the unnatural position. It has no fixed points of resistance, is supported everywhere, and allows free motion to the womb. It is simple in construction. It is inelastic, and hence its operation is under perfect control. Its material is such that it can readily be modified to suit. It does not interfere with marital relations. It is easily introduced and removed, and it causes no obstruction to the rectum, or bladder, or pressure anywhere.

The *anteflexion* pessary is the same pessary with the addition of a slightly excavated and inclined blade or shield. It supports the body of the womb, and compels the neck to retain its proper position, and thus straightens it.

For *retroversion* and *latero-version* the pessary is the Hodge pessary, with the addition of an arched blade or shield connecting the two lateral branches into a solid body for the distance of 1¼ inches. It acts by replacing the body and preventing the neck from following its motion to an abnormal position.

Dr. G. calls this form the *retroflexion* pessary, and sums up as follows: "This pessary combines the several qualities of a retroversion, retrolatero-version, retroflexion, and retrolatero-flexion pessary, and in addition the quality of protecting, especially the rectum from cervical compression, and the womb from bein thrown into complete anteversion."

NON-MALIGNANT GROWTHS.

T. GAILLARD THOMAS, M. D., NEW YORK.

Polypi. The treatment is palliative or curative. The first is necessary where the conditions are unfavorable to the immediate attempt at a radical cure. If practicable, manipulation should be delayed until the tumor is expelled into the vagina. Use palliative treatment to replace the womb if displaced and maintain it by a proper support, removing all pressure from above; keep the patient in bed at her periods, giving only cold and acid drinks, and administering cannabis indica, opium, gallic acid, ergot, or aromatic sulphuric acid. After the epoch has lasted four days, apply a tampon with solution of alum or tannin: keep the bowels regular and avoid fatigue; give nutritious food, bitter tonics, and nervines as they may be indicated, but avoid the use of iron which increases the hemorrhagic tendency. At bed-time, during the interval, syringe the vagina with tepid water, and insert a suppository of tannin high up.

The curative treatment will be to remove or destroy the tumor. If the canal has been dilated by the polypus, the walls may be slit on each side nearly to the vaginal junction, and the tumor drawn out by a tenaculum. Or complete dilatation may be secured by means of tents, and the tumor may be aided in its exit by the use of ergot. If it become necessary to seek the pedicle near the fundus, it may be severed by excision, torsion, ligature, ecrasement, the galvano-caustic wire. If within reach of the knife or scissors, it may be divided. When higher up, Simpson's polyptome comes into use. Small growths may be scraped off by the curette, or twisted off with the forceps. The ligature is objectionable, ecrasement is better. For this, Hicks' wire rope écraseur is excellent. A hard, fibrous polypus, too large for its pedicle to be reached, may be cut away piecemeal by a curved scissors or Nelaton's forceps; or destroyed by deep incisions into its mass. When possible to encircle the pedicle with the galvano-caustic wire, this instrument is preferable. It cuts without force, and there is no hemorrhage.

LOMBE ATTHILL, M. D., DUBLIN.

Mucous polypi are best removed by the wire loop twisted, or by the écraseur. In all cases, the seat of origin must be cauterized with nitric acid. He passes the wire, in cases where the mass is attached to the fundus, by means of two slender silver tubes like those known as "Gooch's canulæ." When these reach the base of the tumor, they are separated and one is passed around, carrying with it the wire. The canulæ are then passed through openings in the extremity of the ecraseur, the wires attached, and drawn tight until the tumor is cut off.

PROF. ROBERT BARNES, M. D., LONDON,

and other authors, agree as to the abandonment of the slow method of strangulation, for fear of pyemia, and the substitution of the quick operation by the écraseur, when possible. The galvanic cautery appears to be a favorite with all.

THOMAS ADDIS EMMET, M. D., NEW YORK,

has invented an écraseur for the removal of these growths. He preferred a chain to the wire, and finding that this would break, and as the curved écraseur did not always prevent this, he placed three joints at the end, so that it could be opened straight, or bent upon itself at a sharp angle. To facilitate the application of the chain, the ends were attached to two flat rods or bands, which could then be passed between the two halves of the ratchet portion, and secured at the handle by a spring catch. To aid in placing the chain close up around the base of the tumor, when situated high up, as at the fundus, he employs a copper sound, with a small circular eye at its end, or a flat piece of whalebone carefully rounded and smoothed with an opening at the end. Through the eye or opening, a strand is passed with a loop, in which is included the chain. By this instrument, the chain is very readily carried up close around the point from which the mass springs.

This author regards the curved scissors as equally applicable where they can be employed for the removal of these growths. He also uses what he calls his "enucleator," a curved steel plate with a saw edge placed over the end of the index finger, and held in place by a band. With this he separates the tissues when the

other means cannot be employed. A rule to be observed is, that when the pedicle is of small diameter, it may be cut close to the uterus; but if short and broad, the separation should be made near the tumor, lest a partial inversion or indentation be caused.

Where fibrous tumors are not pedunculated, he excites uterine contraction by traction on the growth toward the os uteri. This causes pedunculation by the crowding out of the tumor from its bed by muscular contraction behind. He prefers a cord with a slip-knot placed around the growth with which to make traction. It is of no importance as to the thinness of the uterine walls, as the contraction will close up the space as fast as the tumor is withdrawn. It is safer than enucleation, as it can not be known how far the uterine tissue is involved. As a principle of practice, he would delay surgical interference as long as possible; but when the tumor presents at the os, the operation should be considered, for its appearance in the vagina will lead at once to the question of blood poisoning. The operation once begun, it must be completed, as entailing least risk. The purpose is to excite uterine contraction, and this will be continued by traction on the tumor as it is removed piecemeal. The best means for removal is a pair of blunt-pointed scissors, curved on the flat. The écraseur is not fitted for it, as it does not excite the contractions, nor is the mass so rapidly removed. After having removed the portion which first filled the vagina, follow as far as possible the uterine canal. The after treatment will be to wash out the cavity thoroughly with hot water, and then apply freely Churchill's strong tincture of iodine. This arrests the oozing, and is a valuable antiseptic. Never introduce the subsulphate of iron into the cavity, as it is not astringent, and only fills it with coagulated blood, to decompose and cause blood poisoning. After the iodine, a little cotton saturated with glycerine may be packed in, and we may even fill the cavity with cotton damped with a strong solution of alum. Remove this on the second day, and if bleeding has ceased, omit all dressings, and merely wash freely with warm water, and if there is decomposition, add a little brewer's yeast or carbolic acid.

Fibrous growths are to be removed when it can be done with a reasonable degree of safety, or their development arrested and the patient's strength preserved by checking the loss of blood. A cardinal rule is not to destroy the vitality of the tumor *in situ*, lest we add the risk of blood-poisoning. Hence, the action of hot

water injections, iodine, and ergot, will be beneficial. The latter must be used only in small and repeated doses, to excite moderate contraction. It is only to be used in large doses when the os is dilated and it is believed that the tumor is ready for removal. The watery extract of ergot, in the proportion of three parts to about seven of water and the same quantity of glycerine, may be used subcutaneously.

Dr. Ephraim Cutter, of Boston, proposes a carefully regulated diet, chiefly of animal food, and in a number of cases there was observed a marked decrease in the tumors.

The general treatment should be to improve the health. The patient should be in a recumbent position during menstruation, but at other times she should be as much as possible in the open air. Iron seems to increase the hemorrhage, but the action of sunlight on the skin will tend to obviate this. Constipation must be avoided. Food should be in the concentrated form, leaving little for excrement or to cause flatus. Inspissated ox-gall will aid in relieving constipation. As the tumor increases, it should be gotten out of the pelvis, lest it cause disturbance by pressure. Displacements are to be relieved by mechanical support.

To control the hemorrhage, position is very important; even keeping the pelvis above the level to check the flow toward the organs. Ergot cannot be relied on; it rather increases the flow, and should only be used in the intervals as above. Opium allays local irritation, quiets the circulation, and secures contraction of the capillaries. It is best given by the rectum. Gallic acid and cinnamon may be given, a drachm of the former rubbed up in an ounce of simple syrup; then add four ounces of cinnamon water and three of pure water; dose, a tablespoonful every 2 or 3 hours. If this cause nausea, dilute it more, diminish the dose, and lengthen the interval. Drs. Churchill and McClintock highly recommend tincture of cannabis indica in ten-drop doses three times a day. McClintock gives $\frac{1}{10}$ grain of bichloride of mercury every 6 hours. The only reliable means are local applications: hot water injections, tincture of iodine, dilatation of the canal if necessary, and, above all, a tampon of cotton saturated with solution of alum, or one of oakum. By means of the applicator, a tuft of cotton, loaded with Churchill's tincture of iodine may be applied to the fundus, and allowed to remain until forced out. By means of a projecting end, it may be removed if required. The

iodine may be injected by a hard rubber syringe, with the end properly curved. The nozzle is to be carried up to the fundus like a probe, and the iodine forced out very slowly, the patient lying on her left side, with a sponge at the os to prevent the escape to the vaginal walls, which it would greatly irritate. When the strength is not too much exhausted, she should be placed on her knees and elbows, with the os exposed by the speculum during the injection. This generally promptly arrests the hemorrhage. The amount injected should not exceed a drachm. In the absence of the long-nozzled syringe, a flexible catheter may be carefully passed up, and the injection thrown in by means of a glass syringe. To increase the action of the iodine, hot water irrigation should be used. A rubber bag may be introduced on the point of the sound, and then filled with water, thus making direct pressure on the bleeding surface.

Surgical measures are the division of the cervix and the destruction of the tumor. VELPEAU, AMUSSAT and SIMS enucleate or tear these tumors from their beds. The late Dr. ATLEE took out a section, and thus destroyed the vitality. SIMPSON introduced caustic within the mass.

G. DE GORREQUER GRIFFITH, L. R. C. P., LONDON,

Puts the patient to bed and keeps her there, thus securing quiet in every way (*Obst. Jour., G. B. & I.*, March, 1878); cleanses the bowels, and two days after dilates the os and cervix with a sea-tangle tent to a point short of occasioning much pain. Behind the tent, he inserts a tampon of cotton-wool soaked in iodine and glycerine, or glycerine and Condy's fluid. At the end of two days, a great watery discharge issues from the vagina; the tampon may be slightly tainted; the os will be spongy and soft. The vagina must be well washed with a disinfectant. At the end of a second day, a larger tent is used, and so repeated till the os and cervix admit two fingers. Thus he disperses small intra-mural fibroids, situated in the lips of the os, in the cervix, or even at the fundus, and malposition is often corrected. Intractable cases require more dilatation, and often painting the os and cervix with the acid nitrate of mercury; or in slow cases, he packs the interior of the uterus with pellets of cotton-wool soaked as above. This he repeats till the cure is effected, say every two days. Larger tumors require that the liquid mercury be swept lightly around

the cavity by means of a wire and a packing of wool as above. At the next sitting the mercury is more freely used, being well tolerated; and finally he introduces a pellet squeezed out of the mercury, held in place by the tampon and left for two days, using at the same time, by the rectum, morphia suppositories. During this time, he gives ergot and strychnia, as they act on the enlarged and dilated womb and aid the dispersion. He even uses this plan where growths involve the womb itself intimately; the shorter the pedicle, the more hopeful the case.

Never pack the womb too full of the pellets, lest the pain they cause require their removal.

Latterly, he uses in place of the mercury, purified carbolic acid in crystals, or a saturated solution by the pellets, and packs the cavity below, the os, and even the upper portion of the vagina, with wadding steeped in glycerine. The carbolic acid allays the pain excited by the mercury, if they are used together. The acid causes the living tissue to blanche, dry and shrivel.

The flow of serum from the vagina is remarkable, and may be taken for hemorrhage or even for an escape of urine. It is remarkable how rapidly fibromatous conditions were removed by the mere use of the dilating tents, with the ergot and strychnia. He explains this, that the tent has effected dilatation, expanded the os and cervix, thus causing direct pressure from within; the fibres of the womb contract, and these two antagonistic forces diminish the blood supply, diminish the growth, and it is speedily obliterated. Of course, the acids, when used, act directly as destructive agents.

THE MEDICAL TREATMENT OF UTERINE TUMORS.

Fibroid Tumors. From numerous sources, lately, the assertion has been made that interstitial fibroid tumor of the uterus can be treated hypodermically by the aqueous solution of *ergot*, with eminently more satisfactory results than by any other mode of treatment, or by operation.

146. ℞. Ergotinæ (Bonjean's), ʒj
Glycerinæ, f.ʒj
Aquæ destillatæ, f.ʒj. M.
Inject twelve drops daily, hypodermically.

Dr. BYFORD prefers Squibb's fluid extract to any other form of ergot; and Dr. ATTHILL recommends the omission of the glycer-

ine, and prefers a solution of one part of the extractum ergotæ liquidum (*British Pharmacopœia*) in two of water, injecting 15 or 20 minims of this each time. He always inserts the needle into the gluteus muscle, making it penetrate to the depth of more than an inch.

Dr. J. W. WALKER, of Indiana, has reported success from the use of the ergot of maize, the *ustilago maidis* (*New Prepar.*, Jan., 1878).

Dr. BYFORD adds some further direction on the ergot treatment in a recent article (Chicago *Medical Journal and Examiner*, Oct., 1879). The mode of administration should be governed by the objects to be attained. If we desire to cause the painless absorption of the tumor, the doses ought to be moderate in size, and not too frequently administered. HILDEBRANDT administered by hypodermic injection a preparation in quantities which represented from fifteen to twenty grains of the crude drug once daily, or once every other day; and it will often be sufficient once a week. If we desire to have the tumor expelled, we should administer full and increasing doses, often repeated, and continued until the object is attained.

It will sometimes be necessary to vary the quantity and times of giving it, to suit the susceptibility of the patient; less or more according to the amount of pain caused by it.

It is not essential to give it hypodermically, although when it does not produce much inconvenience, this is a very efficacious method; it may be given by the mouth, in suppositories, per rectum, etc.

When we administer ergot for the cure of fibrous tumors of the uterus, the beneficial action of the drug will depend upon the degree of development of the fibres of the uterus, and the position of the tumor with reference to the serous or mucous surface. The nearer the mucous surface, the better the effects. If the tumor is very near the lining membrane, we may hope for its expulsion *en masse*, or by disintegration.

We can often select the cases in which good results may be expected. There are four conditions which are usually reliable for this purpose. They are, smoothness of contour, hemorrhage, lengthened uterine cavity, and elasticity. A smooth, round tumor denotes, for the most part, uniform textural development; hemorrhage, a certain proximity to the mucous membrane; a

lengthened cavity, great increase in the length and strength of the fibres; and elasticity assures us of the fact that cartilaginoid or calcareous degeneration has not begun in the tumor.

An even nodulated tumor may be composed of many separate solid masses. These displace and prevent the growth of the fibres to such an extent as to render contractions inefficient. When hemorrhage is not present, the tumor is probably near the serous surface, and consequently not surrounded by fibres.

Uterine Polypi. The *chloride of calcium*, once popular as a remedy for *goitre*, has recently been advocated by various Irish physicians as efficient in bringing about the expulsion of uterine polypi (*Irish Hospital Gazette*, September 15th, 1874). The formula is:

147. ℞. Liquoris calcii chloridi, f.℥iv
Tincturæ ferri chloridi,
Spiritûs chloroformi, āā f.℥j
Tincturæ aurantii, f.℥ij
Infusi calumbæ, f.℥vij. M.
Two tablespoonfuls three times a day.

These polypi can, also, in many instances, be expelled by the administration of ergot, either by the mouth or subcutaneously. In the hemorrhage which accompanies these growths, perhaps the best injection is of solution of subsulphate of iron, as follows:

148. ℞. Liquoris ferri subsulphatis, f.℥ss
Aquæ, f.℥ij. M.
To be used for intra-uterine injections.

This strength cannot be exceeded with safety, and frequently one-half the amount of the salt will be sufficient.

Prof. JONES, of the Medical College of Georgia, and other Southern physicians, have claimed that the free administration of *muriate of ammonia* brings about the discussion of fibroid tumors of the womb, hypertrophic contractions of the uterine walls, and allied troubles. It may be alternated with ergot.

In *coxcomb granulations* of the os, the best application is strong *cider vinegar*, or crude *acetic acid*. It may be poured into a speculum and allowed to cover the diseased portion for about five minutes. This should be repeated every other day. Nitrate of silver is liable to excite hemorrhage if applied to this form of erosion.

In simple ulcerations of the os much good often follows the use of *iodo-tannin:*

149. ℞. Iodinii, ʒj
Acidi tannici, f.ʒj
Aquæ, Oj. M.
Filter and evaporate to ʒiv. To be applied to the ulcerated surface

Or, for extemporaneous use:

150. ℞. Tincturæ iodinii,
Tincturæ gallæ, ää f.ʒss. M.
For local use.

J. T. EVERETT, M. D. (*American Journal of Obstetrics*, January, 1878), concludes, from his notes of cases, that:

1st. A judicious use of the faradic current is as certain and powerful to produce uterine contractions as ergot.

2d. It is more easily controlled.

3d. It does not disturb nutrition, or any of the secretions, nor does it interfere with digestion.

4th. It does not induce pain in distant organs, and is not followed by cephalic disturbance or nervous shock.

5th. It does not give rise to inflammations, or produce other local injuries.

Dr. ROBERT BELL, London, reports in the *Lancet*, Feb., 1879, several cases successfully treated with ergotine suppositories. These contained each 4 grains, and were inserted each night, resulting in the expulsion of the tumor.

F. A. GALLOIS, M. D., PARIS.

151. ℞. Morphiæ muriatis, ʒj-ij
Sacchari, gr.iv
Ceræ albæ, ʒj
Butyri cacao, ʒss.
Melt over a slow fire the cocoa butter and the wax, incorporate the sugar and morphia, carefully triturated together, and when the mixture is on the point of forming a mass, run it into four horns of paper, and allow it to cool.

These vaginal suppositories are useful in painful affections of the uterus, rectum, and bladder.

RÉSUMÉ OF REMEDIES.

Ammonii Murias. Both Drs. W. L. ATLEE and E. R. PEASLEE have witnessed disappearance of uterine polypoids from the long continued administration of this agent, gr. x, thrice daily. It is best given in the form of compressed pills.

Calcii Chloridum. This was recommended by Dr. McCLINTOCK (See F. 147). Dr. TILT gives gr.x twice daily. He remarks that its effects are more positive after the change of life, and adds the caution that its long continued exhibition has been known to cause arcus senilis and other evidences of arterial degeneration.

Cannabis Indica and

Digitalis as anemiants of the reproductive organs have some claims to consideration as checking the development of new growths.

Ergota. The exhibition of this may be either (1) by the mouth; (2) by the hypodermic injection; (3) by suppositories. (See pp. 139). When given by the mouth, GOODELL believes its permanent effect is enhanced by combination with iodide of potassium. The os should be dilated at the same time. Professor HILDEBRANDT proposed daily hypodermic injections of the aqueous extract under the skin around the umbilicus. He uses:

152.	℞.	Ergotinæ,		6 parts	
		Glycerinæ,			
		Aquæ,	āā	15 parts.	M.

Successful cases have been reported in Philadelphia by this means, one by Dr. W. V. KEATING, who uses:

153.	℞.	Ergotinæ,		gr.xlv	
		Glycerinæ,			
		Aquæ destillatæ,	āā	℥cv.	M.

Prof. JOHN ASHURST, Jr., employs:

154.	℞.	Ext. ergotæ fluidæ,	f.℥iss	
		Glycerinæ,	f.℥j	
		Aquæ,	f.℥ij.	M.

Of either of these ℥. xx. is a sufficient injection: the nozzle of the syringe should be carried down to the muscular walls of the abdomen in order to avoid the formation of abscesses. Rectal and vaginal suppositories of about gr. x. each of the solid extract are used by some.

Ferrum in various forms may be advantageously used to combat the anemia. GOODELL combines it with ergot.

Gallicum Acidum stands next to ergot as a hemostatic in polypoid hemorrhages (GOODELL).

Hydrargyri Biniodidum. GOODELL records the marked diminution of a very large fibroid after long continued frictions with an ointment composed of gr. viij. of the mercuric biniodide to lard ℥ss.

Hydrargyri Chloridum Corrosivum. Drs. T. M. MADDEN and ROUTH, of London, report cases where this agent appears to have diminished uterine polypoid growths in a marked degree (*Half Yearly Compendium*, July, 1874).

Iodinium In the medical treatment of uterine polypi, Dr. T. M. MADDEN states that he has found the long continued use of small doses of tincture of iodine serviceable.

Potassii Bromidum is spoken of with decided favor by SIMPSON and GALABIN, but doubtfully by GOODELL. It should be continued for months in moderately full doses.

Potassii Iodidum has a certain amount of testimony in its favor, for reducing uterine polypoids. GOODELL combines it with ergot.

Sulphuricum Acidum. In the bleeding from uterine fibroids, GOODELL recommends:

155. ℞.	Quiniæ sulphatis,	gr.ij	
	Acidi sulphurici aromatici,	gtt.xx	
	Aquæ,	q. s.	M.

For one dose every two hours.

Ustilago Maidis, the ergot of maize, is said to act similarly to that of rye.

Vinca Major is praised by Mr. SPENCER WELLS, as an efficient agent to combat the anemia and debility following hemorrhagic tumors. An infusion of ʒij. of the leaves to f.ʒxx. of boiling water, f.ʒij every 3 or 4 hours: or f.ʒj of the fluid extract, are the proper doses.

OTHER MEASURES.

Baths, containing bromine and iodine, taken in connection with the internal administration of these agents, are commended by GALABIN.

Electrolysis has been highly lauded by some authorities (p. 141). Its claims are not yet made out.

Galvanism. The constant galvanic current has caused in some instances retrogressive changes in fibroid uterine tumors. GOODELL speaks of it as an agent from which in the future much may be expected.

Leeches. Dr. TILT observes that even bad cases of uterine fibroids may be greatly improved by hygiene, by saline purgatives, and by the application to the cervix of two or three leeches, just before menstruation.

Mineral Waters, especially those of Kreuznach and Woodhall Spa, containing bromine or iodine, are believed to be valuable. Prof. A. R. SIMPSON says: "I have seen patients who were suffering from such tumors in whom the symptoms were relieved, and in whom the growth of a previously increasing tumor was arrested, if the bulk was not immediately diminished. These mineral waters seem to me to exert some portion of their influence by acting as sedatives to the sexual organs, lessening the activity of the circulation in them, and so reducing the nutritional activity."

Pressure, by a firm, broad, elastic bandage retained by a perineal strap, will give great relief in some cases.

MALIGNANT GROWTHS.

PROF. E. J. TILT, M. D., LONDON,

In flooding from cancer, scrapes away from the cervix the outlying portion of diseased tissue, and applies the liq. ferri sub-sulph., or the fuming nitric acid. There is no cure. A fair trial should be given to the solution of iodide of arsenic and mercury, each drachm containing $\frac{1}{8}$ grain protoxide of arsenic, and $\frac{1}{4}$ grain of protiodide of mercury. Dose, half a drachm twice a day. It may cause marked improvement. ATLEE had great faith in arsenic, in small doses for a long time, and locally a weak solution of iodine in glycerine. A drachm each of iodine and of iodide of potassium are dissolved in two drachms of glycerine, and applied by a brush, or on cotton, two or three times a week all over the cervix and to any part of the growth within reach. To relieve the pain, sedatives and anæsthetics. Ice to the neck of the womb is a palliative, also prolonged irrigation with cold water. To destroy the odor, the chlorinated lime, one ounce to the pint of fluid, with a drachm of laudanum, and a tablespoonful of glycerine to prevent irritation. A weak solution of carbolic acid is a good disinfectant. A good hemostatic is a strong solution of liq. ferri sub-sulph. thrown in with a sponge, allowed to remain in contact with the cancer, and then sucked up, and some cotton wool saturated with a styptic left in contact with the sore, to be removed in a few hours. Repeat once a week.' It does good in the worst cases, and may effect a cure in mild forms. If no other operation is admitted, remove by scraping all the softened tissue that can be done without causing too much pain or bleeding.

WYNNE WILLIAMS, M. D., LONDON,

Applies to the denuded surface, and also injects, a solution of twelve grains of bromine in a drachm of alcohol. ROUTH dresses the raw surface with gastric juice. It is best to remove the diseased tissues early with the knife.

PROF. GRAILY HEWITT, M. D., LONDON.

This author regards amputation of the cervix in cancroid of the os as valuable. It arrests bleeding and exhaustive discharges

He prefers the écraseur, or the scissors. He then applies perchloride of iron in glycerine on lint to the cut surface, and plugs the vagina with wetted wool. Hemorrhage is to be checked by ice water injections into the vagina and rectum, perchloride of iron or tannin, the actual cautery, and plugging the vagina. Sir J. Y. SIMPSON extols the use of a saturated solution of perchloride of iron in glycerine by means of a sponge to the surface. Tannin in fine powder, or tannic acid, may be applied through a tube or in form of a pessary. Cauliflower excrescences may be broken off, and tincture of iron injected into the mass.

Dr. HICKS found a saturated solution of alum, holding in suspense tannic acid, applied daily, very effectual. A sponge dipped in strong solution of nitrate of silver is equally valuable. To remove the offensive discharges, wash out frequently with solutions of disinfectants. For the pain, use opium, etc. It is found most effectual in the form of a lavement. The application of carbonic acid gas to the surface of the sore has been suggested. An ordinary quart bottle is used, with an elastic tube fitted to the cork. Eight drachms of carbonate of soda, and six of tartaric acid, are dissolved in water in the bottle, and the gas is generated. The vapor of chloroform may be mixed with it. Nutrition is important; milk is a valuable article of diet. The urinary organs often require relief. For irritability of the bladder, Vichy water, uva ursi, or pareira, with a little liquor potassæ are useful. Sir H. THOMPSON suggests *triticum repens*.

LOMBE ATTHILL, M. D., DUBLIN,

To lesson fetor, add half an ounce of permanganate of potassa to a pint of tepid water, and inject twice a day; or a weak solution of carbolic acid, as an ounce dissolved in eight ounces of water, a tablespoonful of this to be added to half a pint of tepid water; or nitrate of silver, 10 grs. to the ounce, of which 2 or three ounces should be used each time. Internally, iron and arsenic; preferably the tincture of perchloride of iron, or if the stomach is irritable, the ammonio-citrate. In cauliflower excresence, amputate the cervix, or destroy the growth by repeated applications of caustic potassa.

T. GAILLARD THOMAS, M. D., NEW YORK,

Has never seen any benefit from the use of caustics in true cancer. He checks hemorrhage by the styptics already mentioned,

but prefers for this purpose the careful use of caustics so as to produce only a superficial slough, and thus temporarily seal the vessels. Every two or three weeks, after cleansing with cold water, touch the surface lightly by the actual cautery, acid nitrate of mercury, or pure nitric acid. Relieve pain by opiates, and in many cases chloral will be found an excellent substitute or alternate for opium. Correct fetor by the usual lotions of carbolic acid, one to two drachms to the pint, or the same proportion of liq. sodæ chlorinatæ, or one drachm of powdered subsulphate of iron to the pint, or a weak solution of iodide of lead. Keep up strength by use of milk, beef-tea, etc. Use iron freely to repair damages, and quinine as a tonic roborant and an excellent remedy for the neuralgic pains.

In *epithelial* cancer, the disease may be checked, if not cured, by the entire removal of the diseased portion. If amputation be not advisable, cauterization should be performed so deeply as to destroy the surfaces by means of the cautery, potassa cum calce, or the acid nitrate of mercury. This will at least relieve pain, arrest hemorrhage, and restrain the discharges. He applies the potassa cum calce in the proportion of two parts of lime to one of caustic potassa.

THOMAS ADDIS EMMET, M. D., NEW YORK.

This author in cancer of the uterus urges to operate without delay. When limited to the cervix, the scissors or knife is best with which to amputate, and by all means, if it can be done, get into healthy tissue. Healing the cut surface by granulation is liable to act adversely, by causing a renewal of the disease. It is better to cover the stump by sliding the vaginal tissue over it, and secure the edges of the flaps with sutures. Where the disease has advanced too far for amputation, the actual cautery must be used. All the diseased tissue is to be scraped away down to a healthy surface if possible, and then the cautery applied over the whole raw surface. The best is the thermo-cautery of Paquelin. The platina is kept at a white heat constantly by forcing atmospheric air into the midst of a flame of benzine vapor. Next cover the surface with a thick pad saturated with glycerine, and a tampon over it if bleeding seems likely to occur. Let the pad be detached by suppuration. When this occurs, keep the vagina clean. Solution of thymol will no doubt be useful to correct the odor. To

check the bleeding, should it occur, use a saturated solution of alum. Always use these solutions at a high temperature. *Iodoform*, one drachm to an ounce of lard, will relieve pain, correct fetor, and diminish the diseased mass.

PROF. E. S. DUNSTER, M. D., ANN ARBOR.

In the *Medical News*, this author speaks very highly of *chloral* in these cases. He uses a solution of 10–30 grains to the ounce, with which he saturates a cotton wool plug, and applies it closely to the diseased surface. When required, it may be removed by means of a string attached to the plug. He claims that it corrects the odor, and also relieves the pains.

DR. AUST–LAWRENCE

Also recommends this remedy. He gives powdered ergot, 30 grains every 6 hours, except when the patient is already reduced by loss of blood.

[For a full discussion of the medical, palliative and cauterant plans of treatment of Malignant Growths, see NAPHEYS' *Surgical Therapeutics*, Chapter XIV. See also Sir JAS. Y. SIMPSON'S treatment under head of Mammary Tumors, part II.]

STERILITY AND ANAPHRODISIA.

These are separate conditions; the former referring to infertility following the sexual act; the latter to the absence of the subjective and characteristic nervous sensations which constitute the sexual orgasm. As both conditions may depend on a great variety of causes, these must in all cases be carefully sought out.

The causes of sterility are defined by

T. GAILLARD THOMAS, M. D., NEW YORK.

To be—

1st. Causes preventing the entrance of the semen into the uterus, absence or closure of the vagina or uterus by an obdurator hymen, atresia, conical os, polypi, etc.

2d. Causes preventing the production of a healthy ovule, as ovaritis, cellulitis, etc.

3d. Causes preventing the passage of the ovule into the uterus, as stricture or obliteration of the Fallopian tubes.

4th. Causes destroying the vitality of the semen or preventing the fixation of the ovum, as endometritis, membranous dysmenorrhea, menorrhagia, abnormal growths, etc.

Dr. THOMAS adds:

"In spite of the fact that we have at our disposal many valuable resources for the removal of the causes which create sterility, were I asked to mention the part of the field of Gynecology, which yielded me the least satisfaction and the greatest disappointment, I should cite this."

Where any obstacle is present, the proper surgical operation may be performed, as imperforate hymen, atresia vaginæ, occlusion of the womb in any way. The affection is a symptom only to be reached through the malady causing it.

ELY VAN DE WARKER, M. D., NEW YORK.

This writer in a paper on anaphrodisia, or, as he terms it, "impotency" in women (*Am. Jour. Obstetrics*, January, 1878), sums up the causes and divides them into three groups:

I.—MENTAL, subdivided into:

a. Congenital psychical defects.

b. Temporary mental conditions.

c. Sexual incompatibility.

II.—GENERAL PHYSICAL CAUSES.

a. Debility resulting from constitutional and other diseases not sexual.

b. General defective development.

c. Lactation.

III.—CONDITIONS OF THE SEXUAL ORGANS AND NEAR PARTS.

a. Defective development and result of injury.

b. Dyspareunia (Barnes), resulting from (1) uterine displacement: (2) hyperemia of the uterine body; (3) ovarian inflammation or congestion; (4) colpitis either simple or specific; (5) spasmodic contraction of the vagina (vaginismus, Sims); (6) vascular tubercles of meatus urinarius; (7) diseases of the rectum, as fistula, fissure, or inflamed piles or ulcers.

c. Deranged nervous system from uterine displacements and other chronic uterine diseases, and debility from exhausting discharges and chronic uterine disease.

d. Morbid growths.

e. Delayed or arrested menstruation.

The treatment of these conditions should, of course, be in the main etiological.

GRAILLY HEWITT, M. D., LONDON.

This author gives as causes of this condition, abnormal conditions of the hymen; narrowness or partial closure of the ostium vaginæ, or vaginal canal; tumors interfering with intercourse, as an enlarged clitoris; spasms of the ostium vaginæ; absence or imperfection of the uterus, chronic hypertrophy, closure of the os like a valve, one lip being larger than the other, flexions, etc.; diseases of the ovaries; altered conditions of the Fallopian tubes; ill-timed sexual intercourse, as women have a greater aptitude to conceive immediately after menstruation has ceased—this is the best time for intercourse; masturbation, too frequent intercourse, and diseases of the rectum.

Leucorrhea, when alkaline or acid to excess, would cause sterility.

Sexual frigidity cannot be regarded as causing barrenness, as the reverse is constantly seen in practice. General debility and anemia, but especially the opposite, overfeeding and luxurious habits, are especially liable to interfere with conception. The fecundity of the human race is diminished by the life prevalent among the rich, and augmented by the habits and spare diet of the poor, in the proportion of six to one. To ascertain the cause of sterility, it is necessary to examine into the history and antecedents, the manner of menstruation, and the general bodily health. The cure depends upon the removal of the cause, if this be possible.

PROF. E. J. TILT, M. D., LONDON.

Too much hair on the upper lip would lead to a suspicion of some defect of the ovaries. In sterility, occurring in too stout a person, fine her down by exercise, mental labor, and a diet from which bread, butter, milk, sugar, beef and potatoes are to a great extent excluded. The strong sympathy between the breast and the womb confirms the idea that by exciting the former the latter may be powerfully stimulated. Dr. CHAS. LOUDON states that four out of seven women were thus enabled to become mothers. Dr. MARSHALL HALL suggests the application of a strong infant to the breast, and Dr. BAYES advises the use of a breast pump, two or three times a day. If passion be too intense, it may cause barrenness; and this has subsided and pregnancy followed after the prolonged use of cold hip baths, cooling injections and camphor. Again, intercourse seems to act as a poison to the nervous system, causing unconsciousness, headache, and utter prostration, even for days. In such cases the influence is lessened by previous attempts to induce orgasm. Temporary separation sometimes is useful, as giving to intercourse the stimulus of novelty. In Eastern countries, castor, ambergris, cantharides and aromatics, are employed. When consulted, the physician should see to the health of both parties, employ tonics, keeping them apart, and let intercourse occur just after the menstrual flow.

Dr. THOMAS EDIS mentions cases where sterility was removed by connection in the genu-pectoral position.

NYMPHOMANIA.

The form of genital erethism which is currently known under this name, is usually symptomatic of disease of the ovaries, of the uterus, or of vaginal or vulvar pruritus. In all cases, close study of its causative relations is demanded, with a view to their removal. In general treatment, the genetic sedatives mentioned below, especially the potassic bromide, should be exhibited in full doses.

Occasionally the disease is distinctly of centric origin, dependent upon obscure cerebral or cerebellar disorganization, when it is to be considered as one of the symptoms of mania, and treated accordingly.

In some rare cases (one mentioned in the *Trans. Gyn. Soc. of Boston*) it is marked and persistent, without any other defect either of the local or general health observable. In such instances, the treatment can only be tentative.

RÉSUMÉ OF REMEDIES.

Camphora and its *monobromide* have each considerable power as anaphrodisiacs, especially the latter, gr. iv., in capsules, three or four times a day.

Cannabis Indica is a powerful sedative, with special influence on the uterus and its annexes, in relieving hyperæsthesia and reducing hyperemia.

Conium. Dr. ALFRED MEADOWS observes (*Brit. Med. Jour.*, July, 1879) that of all the anodynes we possess, none can compare with conium as an anodyne to the generative or sexual organs. It calms vascular excitement and moderates ovulation itself. Gr. j. of the alkaloid conia may be used in a vaginal pessary nightly.

Digitalis lessens the flow of blood to the generative organs, and in some cases acts very satisfactorily.

Ether. Dr. LAURENCE TURNBULL combines ether with camphor in abnormal sexual excitement:

156. ℞. Vitelli ovi, f.℥ij
Pulv. camphoræ, ℥ij
Aetheris, f.℥ij. M.

Add the ether to the camphor, and then the emulsion. Dose, a tablespoonful every two hours.

Ferri Bromidum acts moderately in sexual erethisim, but less efficiently than the potassic bromide.

Hyoscyamus. TILT combines camphor with hyoscyamus.

157. ℞. Camphoræ, gr. ij
Ex. hyoscyami, gr. j. M.
For one pill. Two or three, thrice daily.

Lupulina has been found effectual as an anaphrodisiac, in doses of six to twelve grains several times a day.

Potassii Bromidum is *par excellence* the sedative of the reproductive system. Dr. ALFRED MEADOWS believes that by its steady use we may limit ovulation, and indeed absolutely suspend the function altogether and produce in time an atrophy of the ovary (*Brit. Med. Jour.*, July 12, 1879). The dose should be not less than ʒss three times daily.

Zinci Bromidum is given by CHARCOT as an anaphrodisiac in doses of gr. v–xx., daily.

Clitoridectomy, as practised by the late Mr. I. BAKER BROWN, of London, is justifiable where other means fail, and the cause appears to be local irritation.

CHAPTER III.

DISEASES OF THE VAGINA, URETHRA, AND BLADDER.

Synopsis of Diagnostic Points--Vaginitis, Acute and Chronic, Non-specific—Vaginitis, Specific, Gonorrheal—Vaginismus and Dyspareunia—Vaginal Growths — Pruritus Vulvæ and Vulvitis — Cystitis, Acute and Chronic—Urethritis—Urinary Disorders—Irritable Bladder, Dysuria, Polyuria, Ischuria, Enuresis, Vesical Tenesmus, etc.

SYNOPSIS OF DIAGNOSTIC POINTS.

VAGINITIS.

In the various forms of *vaginitis*, the chief difficulty in diagnosis is to distinguish gonorrheal from simple inflammations. Dr. N. L. GALABIN, however, asserts (*Diseases of Women*, 1879), that a conclusion based upon the following signs, or the majority of them, will be right in ninety-nine cases out of a hundred.

Gonorrheal vaginitis is characterized by—

1. Its sudden onset.

2. The markedly yellow or greenish color, offensive smell, and irritating quality, of the discharge.

3. The smarting on micturition produced by extension of the inflammation to the urethra.

4. The occurrence of inflammation or abscess in the vulvo-vaginal glands, the ducts of which can often be distinguished as injected points just in front of the hymen or its remnant.

5. Marked œdema of the vulva and buboes.

6. The communication of contagion to the male.

When most of these are present, the case is *almost*, but not entirely, certain to be one of specific infection.

Dr. LOMBE ATTHILL says, speaking of the two forms of vaginitis: "I must avow that I know of no means of distinguishing with any certainty between the two" (*Diseases Peculiar to Women*, p. 37).

An almost pathognomonic sign of gonorrheal vaginitis, according to Mr. TAIT, is *œdema of the vulva*. All cases of specific origin do not present it; but where it is present, it may be considered the strongest proof of infection; and where this is combined with a high degree of pain and scalding, especially during micturition, the case may be considered as beyond doubt of infectious origin. The discharge in such cases is profuse, purulent, and not glutinous, and the mucous surface of the vagina is of a yellowish red color; whereas in non-specific or catarrhal vaginitis, the discharge is scanty and tenacious, and the mucous surfaces of a purple hue.

CYSTITIS.

The principal local signs of inflammation of the bladder are pain, tenesmus, and frequent desire to urinate, followed by straining as if the organ had not been fully emptied. The pain is usually a dull ache in the perineum and the sacrum. Frequently the color and odor of the urine are little changed; mucous sediment is usually present.

The frequent urination differs from that seen in pregnancy and prolapsus by not diminishing when the recumbent position is assumed. The presence of tenesmus differentiates it from that witnessed in abdominal tumors, pelvic peritonitis, and inflammations of the urethra. Palpitation and percussion of the abdomen will develop tenderness of the bladder, if it exists. The catheter or sound will distinguish cystitis from the pressure of stone or other foreign body in the bladder. And the endoscope affords a means of ascertaining the exact appearance of the interior of the bladder and urethra.

Dr. E. J. TILT observes; "What one man calls chronic cystitis, another calls irritable bladder," so closely, in many instances, do these conditions shade into each other.

URINARY DISORDERS.

The functional disorders of the bladder are divided into the following forms:

1. *Polyuria*—frequent urination and in considerable quantity.

2. *Ischuria*—difficult urination and imperfect emptying of the bladder.

3. *Dysuria*—painful urination.

4. *Enuresis*—incontinence of urine.

5. *Vesical tenesmus* — spasmodic pain after urination is completed.

6. *Vesical Irritability*—frequent and painful micturition, with the passage of very little urine.

VAGINITIS, ACUTE AND CHRONIC—VAGINAL CATARRH—LEUCORRHEA—COLPITIS.

Of the general means at our disposal to combat vaginal affections, the following survey is given by

DR. A. LEBLOND, OF PARIS.*

Vaginal Injections. This writer observes that the temperature of vaginal injections has much to do with their effects. Taken cold, they produce an afflux of blood to the pelvic basin, and are thus stimulant; while taken warm, their action is sedative. The dangers which some writers have referred to as attending vaginal injections are probably owing to the fluid being thrown into the uterus; this can largely be avoided by using a syringe the apertures at the end of which are on the sides, and not at the extremity of the nozzle. When there is much inflammatory action in and near the vagina, the fluid should be thrown in very gradually, as long as ten or fifteen minutes being consumed in an injection. In such inflammatory conditions, injections of infusions and solutions of hyoscyamus, belladonna, etc., are often employed with advantage; these should always be administered lukewarm, as cold applications in such conditions may lead to injurious reactions.

Vaginal Irrigations. These may be either of liquids, as water, plain or medicated; or of gases, as carbonic acid gas or the vapors of chloroform, ether, etc. A variety of apparatus has been employed at various times, which need not be here described. Whichever one is used, the irrigation should continue at least half an hour at a time to be efficacious.

In uterine neuralgia and dysmenorrhea, advantage has been derived from injection of *chloroform* vapor into the vagina and uterus. This may be done by the apparatus devised by SCANZONI, or by means of a bottle with a large cork, into which two tubes are introduced, the one connected with a vaginal canula, the other with a hand ball for forcing air. The chloroform is poured on some cotton in the bottom of the bottle, the cork inserted, the canula introduced into the vagina, and the vapor driven in by

* *Traité de Chirurgie Gynécologique*, Paris, 1879.

pressing the ball. The injection of chloroform vapor sometimes produces considerable irritation of the vaginal walls, and it therefore must be used with caution, and not of much strength.

Medicated Tampons. These are valuable in many forms of vaginitis. They should be long, so as to separate the vaginal walls throughout their whole extent, and made of dry wadding. They are medicated with glycerin, the glyceroles, alum, tannin, saponified coal tar (which has been highly extolled by M. SIREDEY), or other substance.

The proper introduction of the tampons can only be done with a speculum. Their extraction will be facilitated by anointing them with cerate or oil. They should not be allowed to remain in for many hours at a time, lest they interfere with urination. In extracting them, patience and care, and the free use of warm water, are often necessary to avoid painful dragging, or laceration of the delicate lining membrane of the vagina.

Vaginal cataplasms. At one time this method of medication was much employed, but of late years has fallen out of use. The neatest and most effectual are prepared from wadding soaked in infusion of *fucus crispus.* It is to be had ready prepared from pharmacists, in the form of sheets. A piece about three inches square is cut off, moistened with warm water, rolled into the form of a cylinder, and a string being attached to facilitate its withdrawal, it is inserted into the vagina by the hand or a *porte-tampon.* To be efficacious, they should be renewed daily, and without interruption, for considerable time. They have been found valuable in many inflammatory affections of the vagina and os.

Vaginal suppositories, or medicated pessaries. These have been familiar to the profession from the earliest antiquity. The excipient may be cerate, cocoa-butter, or petroleum products containing sufficient paraffin to give consistency; the active ingredient is belladonna, morphia, iodide of lead, etc. The most appropriate size is an inch and a half in length, and three-fourths of an inch in circumference. They can be introduced daily by the patient herself. As the absorptive power of the vaginal mucous membrane is very slight,* they are less efficacious than rectal suppositories.

* Dr. HAMBURGER, however, and some other writers, have maintained that the absorptive power of the vaginal surface is considerable. The general assumption is that it is one-half that of the rectum. As the fact rests uncertain, caution should be exercised in using the more potent drugs.

LOMBE ATTHILL, M. D., OF DUBLIN.

In sub-acute vaginitis, this author states that a mode of treatment of the greatest value is by the application of *glycerin*. With this a roll of cotton wadding, with a strong thread attached, is saturated, introduced into the vagina through a speculum, and left for twenty-four hours. The glycerin, by its affinity for water, produces a copious, serous discharge, which in a marked degree relieves the congestion that exists.

Dr. ATTHILL does not employ either alum or sulphate of zinc in vaginal injections where any inflammation is present. They both coagulate the albumen in the discharge, and cause much discomfort. Borax is better, as

158. ℞. Sodii biboratis, ʒj
Aquæ, Oj. M.

In some cases, much benefit will be derived from adding *tobacco*, gr. xv–xxx, to this amount; or when the patient is nauseated by the tobacco, one ounce of hops may be substituted.

Where there is no vaginal irritation, but only a profuse and weakening leucorrheal discharge, astringents, such as alum or sulphate of zinc, ʒj, to water, Oj, will often prove very useful. So also will decoction of oak bark, although this has the objection of staining the linen.

J. P. THOMAS, M. D., OF KENTUCKY.

This writer (*Richmond and Louisville Medical Journal*, Sept., 1879) describes a medicated pessary, partaking of the emollient and soothing effects of a poultice, which he has used with success in erosions of the os and cervix uteri, and of neighboring parts of the vaginal surface. It is based on a formula of Dr. Rezin Thompson's, and is as follows:

159. ℞. Pulv. ulmi corticis, ℔i
Pulv. ipecac. et opii, ʒiij
Bismuthi subnitratis, ʒij
Pulv. sassafras rad. cort., ʒiv
Balsami copaibæ, ʒiv. M.

The powders are to be intimately mixed by passing them sufficiently often through a gauze sifter. The copaiba is to be thoroughly incorporated with the powder, and water gradually added until the mass by constant working or kneading acquires the

consistency of stiff dough; then roll into balls from one to two inches in diameter, according to the desired size or shape of the pessary. When the balls are perfectly round, place them on a smooth board in the sun, or if cloudy, under a stove, to partially dry. When they begin to feel hard, moisten them slightly and smooth and close any cracks that may have formed, and after a few hours manipulate them into any form desired. Before introducing them they should be dipped in warm water.

T. FINCH, M. D., OF ILLINOIS.

160. ℞. Potassii chloratis, ʒiv
Potassii permanganatis. gr.x
Aquæ, Oj. M.

Inject a teacupful morning and evening, in acute vaginitis. Warm sitz-baths and saline laxatives are important accessories. (*Chicago Medical Examiner*, December, 1874.)

DR. EDIS, OF MIDDLESEX HOSPITAL, LONDON.

In the subacute form of vaginitis this writer recommends swabbing the vagina freely with strong *carbolic acid*. A speculum is inserted, and the fundus vaginæ first touched; the speculum being gradually withdrawn, the acid is allowed to come into contact with the whole length of the vagina, stopping short just before the junction of the mucous membrane with the vulval outlet, otherwise intense burning pain will be produced. Care must be taken not to allow any excess of the acid to run down externally. It is well to insert a pledget of cotton-wool soaked in oil just within the orifice of the vagina to prevent this; but should much burning pain ensue, the patient is directed to squeeze a little olive-oil into the passage, and to insert a morphia suppository *per anum*. In several instances, this method of treatment had been adopted with marked success; two or three applications, at most, arresting the discharge, after several weeks' ineffectual treatment with ordinary lotions.

PROF. SCANZONI, VIENNA.

This author recommends, in vaginitis, the employment of a tampon rolled in powdered alum. If the sensibility be too acute, the alum is to be mixed with two parts of sugar. The tampon should not remain in the vagina longer than twelve hours, and ought to be introduced every two or three days. When it is withdrawn, the vagina should be cleansed by warm-water injections,

and a bath taken. Some physicians replace the alum tampon bay, sachet of gauze filled with an astringent powder, such as oak bark.

SIR CHARLES CLARKE, OF LONDON.

This distinguished physician often prescribed the following internally in protracted leucorrheal discharges. It is also highly praised by Dr. S. ASHWELL in his work on *Diseases of Women*:

161. ℞.	Infusi cascarillæ,	f.℥j	
	Aquæ pimentæ,	f.℥ss	
	Tinct. sabinæ comp.,	f.℥i–ij	
	Syr. zingiberis,	f.℥j.	M.

For one dose 3 times daily; a blister to the sacrum.

DR. BUYS, OF BORDEAUX.

This author (*Bordeaux Medical*, 1873) recommends in chronic discharges from the vagina the following injection:

162. ℞.	Tincturæ iodinii,	gtt. 45	
	Acidi carbolici,	gtt. 6	
	Glycerinæ,	f.℥j	
	Aquæ destillatæ,	f.℥vj.	M.

For a vaginal injection.

PROF. TRÉLAT, PARIS.

The following has been extolled by Professor TRÉLAT, in vaginal leucorrhea:

163. ℞.	Acidi carbolici pur.,	gr.xv	
	Aquæ coloniensis,	℥j	
	Aquæ,	℥ij.	M.

With this he moistens a tampon, and carries it to the bottom of the vagina. After the surfaces have been cleaned by the use of this, he substitutes for it a milder preparation, as

164. ℞.	Acidi tannici,	℥j	
	Glycerinæ,	f.℥j.	M.

To be applied on a tampon.

DR. A. A. BOINET, PARIS.

165. ℞.	Tincturæ iodinii,	f.℥iij	
	Acidi tannici,	℥j	
	Potassii iodidi,	℥ss.	M.

This solution is employed to paint the vagina, in acute or chronic vaginitis, and the uterine neck, in engorgement and ulcer

ation. The proportion of the tincture of iodine is to be lessened, according to the character of the inflamed tissues and the effect that it is desired to produce.

J. N. DEMARQUAY, M. D., PARIS.

166. ℞. Acidi tannici, gr.xv–xxx
Glycerinæ, f.℥ijss. M.

Tampons of wadding immersed in this solution are introduced into the vagina after the acute symptoms have been relieved by baths, emollient injections, and repose.

M. MAISSONNEUVE, PARIS.

167. ℞. Ferri sulphatis, ℥ijss
Aquæ, Oj. M.

This solution is advised in injections in vaginitis. After each injection, a certain quantity of starch is to be introduced into the vagina.

EDMOND LANGLEBERT, M. D., PARIS.

168. ℞. Tincturæ iodinii, f.℥v–x
Aquæ destillatæ, Oij
Potassii iodidi, q. s. to prevent the precipitation of the iodine. M.

A useful injection in vaginitis after the acute stage has passed. Ulceration, if any exist, should be lightly touched with nitrate of silver. If the vaginal discharge be offensive, the following injection is useful:

169. ℞. Liquoris sodæ chlorinatæ, f.℥vj
Aquæ destillatæ, Oiss. M.

E. J. TILT, M. D., OF LONDON.

This author states that whether vaginitis occurs spontaneously or as the result of uterine catarrh, it is best cured by the injection of a solution of nitrate of silver. His usual solution is one of forty grains to the ounce, and he directs that the patient be placed on her back, a small glass speculum introduced as far as possible, and an ordinary glass syringeful of the solution be injected. The speculum is then to be very gradually withdrawn to the vicinity of the vulva, after the fluid has been left in contact for two or three minutes; then the speculum is to be removed, and the fluid received into a small cup. Or, a speculum may be applied, and as it is withdrawn, the sides of the vagina are freely touched with

the toughened stick of silver nitrate, after the plan of RICORD in granular vaginitis.

These measures recommended by Dr. TILT seem unnecessarily severe. Dr. A. COURTY (*Maladies de l' Uterus et de ses Annexes*, 1866), advises to begin with a solution of gr. xv to water f.℥j; although he adds that it may be increased to gr. xxiv or even to gr. xlviij. He insists, especially, that the vagina shall be carefully washed and wiped with cotton through the speculum before the caustic solution is applied.

DR. GUIPON, PARIS.

170. ℞. Ferri sulphatis, ℥ij
Ferri subcarbonatis, ℥iij
Cinchonæ pulveris,
Canellæ pulveris,
Ergotinæ, āā ℥j. M.

One or two pinches to be administered before the two principal meals, in idiopathic leucorrhea. Its usage is to be suspended on the approach of the menstrual epochs. Prolonged vaginal injections, morning and evening, with cold water and vinegar. Tonic regimen.

171. ℞. Acidi tannici, gr.ix
Ceræ albæ, ʒvj
Adipis, ℈iv. M.

Melt by a slow heat, and cool in a mould.

This is a useful vaginal suppository in leucorrhea.

LAWSON TAIT, F. R. C. S., BIRMINGHAM.

This author warns against the use of vaginal injections in acute vaginitis on account of the risk of causing endometritis and ovaritis. He considers no remedy equals the steady application of hot fomentations of acetate of lead and opium, the same drugs being inserted into the vagina in the form of soluble pessaries. When the acute stage has passed, pessaries of cocoa-butter containing tannin or acetate of lead are useful; after that, injections of a four per cent. solution of *permanganate of lime* will establish a cure.

In chronic forms, which do not extend to the uterus, brushing the whole surface with equal parts of glycerine and carbolic acid, followed by the use of an astringent pessary of acetate of lead or sulphate of zinc, will speedily effect a cure.

Dr. NEFTEL, of New York, has called attention to several cases of intense vaginitis, coincident with lead-poisoning from the use of cosmetics, and which disappeared under the internal use of iodide of potassium and sulphur, without local medication of any kind.

HENRY M. FIELD, M. D., OF BOSTON.

Atony of the vaginal walls. This condition is quite common, accompanied or not by a leucorrheal discharge. Frequently this may be relieved by astringent vaginal suppositories, as

172. ℞. Acidi tannici, gr.x
Butyri cocoæ, q. s. M.
For one suppository. One daily.

For this, borax or alum may be substituted. The borax is a mild astringent and local tonic. The extract of rhatany may also be used with excellent results (*Jour. Gyn. Soc. Boston*, Vol. VI).

RÉSUMÉ OF REMEDIES.

INTERNAL REMEDIES.

Alumen, in doses of gr. v–viij thrice daily, in combination with pilulæ aloes or with nitre (gr.x), is productive of good in some obstinate cases of leucorrhea.

Alkalies are often of value in correcting acrid discharges from the vaginal membranes.

Cantharides. The use of the tincture, once so highly praised by Dr. DEWEES and others, has fallen into comparative disuse. It was given in gtt. xx thrice daily, in a demulcent draught, the dose being subsequently increased to gtt.xl–l, until it produced slight strangury, when it was diminished or the medicine discontinued. The average period of cure was about four months.

**Copaiba* is highly spoken of by a number of writers, in doses of ♏xv thrice daily.

Cubebs have been employed with success.

Ergot, in doses of gr.v thrice daily, often gives good results, especially if a blister be applied to the sacrum.

Gallæ Pulvis, in doses of gr.x–xx, in decoction of tormentilla, daily, is given with great benefit at the Lock Hospital, London.

Hæmatoxyli Lignum, in decoction, has been employed with advantage.

Juniperus frequently exerts a beneficial influence.

Krameria. The extract, in doses of gr xx daily, often arrests the discharge and improves the tone of the system.

Potassii Nitras. Dr. DEWEES prescribed the following with success in some obstinate cases:

173. ℞. Potassii nitratis, ʒv
Aluminis, ʒijss. M.
Divide into thirty powders; one thrice daily.

Pulsatilla, tincture, gtt.v thrice daily, is said by PHILLIPS quickly to relieve leucorrhea attended by pain in the loins, depression and derangement of the nervous system.

Sabina has been recommended (F. 101). Its use is most promising in obstinate leucorrheal discharges.

Tannicum Acidum, in doses of gr. ij–iij twice or thrice daily, in aqueous solution, combined with a small portion of dilute nitric acid, has been found an efficacious remedy.

Terebinthinæ Oleum is recommended, in small and repeated doses, by Dr. PEREIRA, in chronic cases, unattended by inflammatory symptoms.

VAGINAL INJECTIONS.

Acidum Salicylicum Injections of salicylic acid have been used with perfect satisfaction in all discharges from the vagina. This formula is offered:

174.	℞.	Acid. salicylic.,	ʒiss	
		Glycerinæ,	f.ʒiij	
		Aquæ,	Oij.	
Sig.—For six injections. One daily.				

In uterine catarrh the canal should be injected by means of a catheter small enough for the purpose. The acid should be well dissolved in the liquid, for obvious reasons. This method is highly recommended in the treatment of chronic blennorrhagia, and it is said to succeed perfectly.

Aloes. French writers have lauded in chronic and obstinate vaginitis, especially of blennorrheal origin, injections medicated with tincture of aloes. (*Fonnsagrives, Thérapeutique Appliquée, Vol. II.*)

**Alumen*. Dr. TYLER SMITH, of London, has found the following injection very serviceable:

175.	℞.	Aluminis,	ʒss	
		Acidi tannici,	ʒj–ij	
		Aquæ,	Oij.	M.
One-half to be used at night, and the other half in the morning				

Oak bark decoction also makes a good vehicle:

176.	℞.	Aluminis,	ʒj	
		Decocti quercus albæ,	Oj.	M.

Dr. E. J. TILT, of London, remarks that he has repeatedly known the prolonged use of alum injections produce an irritable, sub-inflammatory state of the cervix uteri; he advises, therefore, when astringent injections are long continued, to use those of alum, zinc, and sugar of lead, on alternate days. LEBLOND notes that it hastens the exfoliation of the vaginal epithelium, and curdles the albumen in the discharges, and is objectionable on these accounts. Dr. ATTHILL never uses it when any inflammatory action is present.

Ammonii Murias has occasionally been used in vaginal injection:

177. ℞. Ammonii muriatis, ʒj–iv
Aquæ, Oj. M.

Argenti Nitras, in solution, has been advised as a vaginal injection:

178. ℞. Argenti nitratis, gr.iij
Aquæ destillatæ, f.ʒij. M.

This agent, once very popular, is now much less so. ATTHILL remarks that better results can almost always be obtained by other means, and this is the general opinion.

**Bismuthi Subnitras*, applied once a day in powder, on a small piece of charpie, by means of a speculum, to the whole of the vaginal mucous membrane, is an effectual remedy in some cases. Or it may be mixed into a thick cream with glycerine, and applied to the whole of the vaginal membrane.

Calcis Aqua. The vaginal injection of a weak solution of lime-water sometimes effects a cure after the failure of other remedies.

Catechu. The infusion, injected once or twice a day, often greatly lessens the discharge.

Cocculus Indicus is recommended by PHILLIPS, when the discharge is of a sero-purulent character, with pain in the lumbar region. gtt.v–x of the tincture, two or three times a day.

Cupri Sulphas. The following injection, given after previously washing out the vagina with soap and water, is of service:

179. ℞. Cupri sulphatis, gr.xx-xxx
Aquæ tepidæ. Oss. M.
To be used thrice daily.

Feculum. Dr. GEORGE H. BIXBY, of Boston, has recommended starch injections in vaginal inflammation (*Jour. Gyn. Soc. Boston*, Vol. V). His formula is—

180. ℞. Thin boiled starch, ½ pint
Pulv. chlorate of potash, 1 teaspoonful
Glycerine, 4 "
Use by injection every night, or twice daily.

Ferri Chloridi Tinctura, ʒj to a pint of water, forms an excellent astringent injection.

Glycerina, as dilute solution, as an addition to other medicaments, exerts an excellent effect. It increases the discharge, but relieves congestion.

Granati Radicis Cortex. The decoction of the root-bark (ʒij, aquæ Oij, boiled to Oj) is a useful vaginal injection, combined with alum:

181. ℞. Aluminis, ʒj
Decocti granati radicis corticis, Oj. M.

Hydrargyri Chloridum Corrosivum. Dr. DEWEES employed the following solution as a vaginal injection in obstinate leucorrheas:

182. ℞. Hydrargyri chloridi corrosivi, gr.j
Aquæ, f.℥ij. M.

It should be used with great caution, as even at this strength it may act most painfully on the surface. Milder means are safer. His directions are that it is to be used only in chronic cases; given at first only once a day, then several times a day, until heat and irritation occur, when lotions of acetate of lead will effect the cure.

Iodinium. Dr. TILT gives:

183. ℞. Tinct. iodinii,
Tinct. opii, āā f.℥ij. M.

Two or three teaspoonfuls to be added to a pint of water, to be used once or twice a day.

Matico. The infusion has been injected with benefit.

Plumbi Acetas. The following is a useful vaginal injection:

184. ℞. Plumbi acetatis, gr.vj
Aquæ, f.℥j. M.

Plumbi Subacetas is preferred by Dr. TANNER in the following solution, the whole of which is to be used twice a day:

185. ℞. Liquoris plumbi subacetatis, f.℥ij
Aquæ, Oj. M.

Potassii Chloras. The following vaginal injection has been employed with success:

186. ℞. Potassii chloratis, ℥j
Aquæ destillatæ, f.℥viij. M.

Potassii Permanganas, in dilute solution (gr. v. to aquæ f.℥j) is undoubtedly very beneficial in many cases, especially where the discharge is fetid. An objection to it is that it stains the linen.

Pulsatilla. ℥j of the tincture to Oj of water, is recommended by PHILLIPS for a daily enema in obstinate leucorrheas.

Quercus Alba. The decoction, with or without alum, is a safe and effective vaginal injection.

Sodii Boras. Dr. GRAILLY HEWITT, of London, advises, when the discharge is acrid, frequent ablutions of the external parts with a borax lotion, to prevent irritation. ATTHILL believes that it is both astringent and tonic. The usual strength is ℥j to water Oj.

Sodii Carbonas. Dr. S. ASHWELL states that repeated experiments have shown that inflammation of mucous membranes always engenders a free acid on their surface, and that to neutralize this he and others have obtained almost immediate relief by the use of an alkali (*Diseases of Women*, p. 157). He recommends:

187. ℞. Sodii carbonat., ℈j–℥j
Aquæ, Oj.
For a vaginal injection in leucorrhea.

Tannin. This is one of the most popular substances for astringent injections. The amount required is ʒss–j in a pint of cold water. Glycerine may be added.

Thea. An infusion of green tea makes a good injection.

Tormentilla. The decoction (ʒij, aquæ Oiss, boiled to Oj) is an excellent vehicle for alum, in vaginal injection.

**Zinci Acetas.* This salt forms a useful vaginal injection, in the strength of gr.ij–iv to aquæ f.℥j. The following was a favorite formula with Sir ASTLEY COOPER:

188. ℞. Zinci sulphatis, gr.vj
Liquoris plumbi subacetatis, ♏xxx
Aquæ, f.℥iv. M.

By this formula decomposition takes place, the acetate of zinc resulting.

Zinci Oxidum. The following vaginal injection has been given with success:

189. ℞. Zinci oxidi, ℥ss
Aquæ, Oij. M.

Zinci Sulphas, gr.j to water f℥j, is beneficial where the inflammation is slight.

Poultices. M. FOURNIER, of the Lourcine Hospital, Paris, makes use of voluminous cataplasms which quite distend the vagina; and he states that he was first induced to resort to this practice by having observed the effects which had several times resulted from his pupils having forgotten to remove large wadding plugs that had been introduced. In each instance, these, so far from having acted prejudicially, had proved of service in treating vaginitis.

VAGINITIS (SPECIFIC, GONORRHEAL).

In the gonorrheal form of vaginitis, the treatment recommended by

J. T. DARBY, M. D., OF NEW YORK,

Is almost exclusively local (*Archives of Clin. Surgery*, June, 1878). Internal remedies are of no efficacy. The only proper treatment is a local one, and general treatment is only beneficial for the constitutional symptoms, or to make the urine less acrid and irritating to relieve the pain in micturition. Alkalies given by the mouth answer the latter indication.

In a severe case of the disease, absolute rest, elevation of the hips, and the use of some local remedies, will assuage the pain and inflammation. The only medicines to be administered internally are to prevent the burning in the urethral tract. Dr. D. discards entirely copaiba, turpentine, and the like, as they do no good, while on the contrary they do harm by disturbing the digestion.

Lotions applied to the part itself act as a sedative, of which lead lotion is the best where there is a good deal of inflammation without very much suppuration. Direct the patient to sit over a vessel, and then by means of a fountain syringe inject the parts well. The continuous application of *cold* is sometimes very beneficial. If the bowels are constipated, give a laxative to cause a free action; common Epsom salts or seidlitz powder will do very well. We do not wish to cause a diarrhea, but simply to produce a few active movements so as to help remove the congestion.

The diet should be regulated so as not to be too stimulating. Rice and milk with stale bread may constitute the food until the fever has abated. If the fever runs high, we may give tincture of aconite, or the tincture of *gelseminum sempervirens*. This latter is one of the best remedies for the purpose in this disease. This agent has no specific influence on the disease, but it simply reduces the constitutional disturbance produced by a local cause.

Sometimes the discharge is very profuse. In such a case, use warm water for the injections instead of cold. Where suppuration is abundant, the warm injections act better, and, moreover, they are much more comfortable to the patient. In addition to the warm

water injections, astringents may be used, such as acetate of lead or tannic acid. Opium may be combined with these remedies, as it tends to relieve the smarting they produce, and prevents pain by its direct action.

Another remedy of considerable efficacy is *chlorate of potassa*. This may be used alone or in combination with the bromide of potassium. A very good prescription is the following:

190.	℞.	Potas. chlorat.,		
		Potas. bromid.,	āā	℥ss
		Aluminis,		℥j
		Aquæ fervent.,		Oij. M.

This is one of the best remedies to alleviate the pain and stop the discharge.

JOHN MORRIS, M. D., OF BALTIMORE.

This writer (*Virginia Med. Monthly*, Aug., 1878,) also believes that local remedies are chiefly to be relied on, though he has found *cubebs*, administered internally, to prove very serviceable, particularly if the urethra or bladder is involved. Cubebs exercise a specific effect on the mucous surfaces, even when taken into the general circulation. He has, therefore, used this drug with advantage in both leucorrhea and specific vaginitis. The old-fashioned injection of *sulphate of zinc* acts very well in mild attacks, if supplemented by frequent injections of cold water. When the urethra or rectum is the seat of the inflammation, *nitrate of silver* is our most potent agent. When the disease creeps into the cervix uteri, internal injections of nitrate of silver and glycerin are our best means of cure. These cases are very intractable, and peculiarly painful when the Fallopian tubes and ovaries are included in the inflammatory process. Months, even years, are required ofttimes to effect a cure. In some cases, indeed, the disease is incurable, and remains as a lifelong affliction. When gonorrhea attacks the rectum, it is not only painful, but troublesome. Many weeks are required to effect a cure. It seems to exercise the same kind of virulence in this locality that it manifests when it attacks the conjunctiva, though, of course, the after consequences are not so serious.

DR. GAUDRIOT, OF PARIS.

191.	℞.	Zinci chloridi liquoris (Fr. codex),		gtt.v
		Morphiæ sulphatis,		gr. ½
		Mucilaginis,		
		Pulv. sacchari albi,		
		Feculi,		q. s. M.

Make one suppository. To be introduced into the vagina and retained by a bandage. The vaginal secretions dissolve the suppository, and the active agents are brought into contact with the membrane.

LAWSON TAIT, F. R. C. S., BIRMINGHAM.

Acute gonorrheal cervicitis or endo-cervicitis, is full of anxiety, for the disease may spread up the uterus and along the tubes to the ovaries. The patient must be kept rigidly in bed, and be treated by soluble pessaries of acetate of lead and opium, and general antiphlogistic remedies. On no consideration whatever should injections be employed in such a case, either vaginal or intra-uterine.

Gonorrheal acute ovaritis is a common result of the injection. There is agonizing pelvic pain, generally on one side, and all the signs of a severe inflammatory attack. Micturition and defecation are often accompanied with excruciating pain. By administering an anæsthetic, a vaginal examination will reveal the enlarged ovary. The treatment should consist in leeches to the perineum, a blister over the ovary, diuretics, and small frequent doses of opium. The rectum should be well evacuated by an enema, and the bowels kept quiet for a few days.

In cases of fading gonorrhea it is very common to find that pressure on the trigone gives a good deal of pain, and that the urine is alkaline and purulent. Injection of the bladder in these cases with weak solutions of carbolic acid or neutral acetate of lead will very rapidly effect a cure.

In acute *gonorrheal urethritis* no application is so good as a morphia pessary; the chronic form which is often left after the acute stage has passed is very easily cured by the application of equal parts of carbolic acid and glycerine on a probe armed with cotton wool.

JOSEPH MULREANY, F. R. C. S., ENGLAND.

Gonorrheal metritis. Where the gonorrheal inflammation extends to the uterus, bringing on the complication of specific metritis, this writer (*Half-Yearly Compendium*, Vol. VIII.), prescribes at the outset dry heat to the abdomen, and internally a combination of the alkaline carbonates, iodide of potassium and opium, in large and repeated doses, such as in the following formula:

192. ℞. Pulv. potass. bicarb., ʒij ad ʒiij
Pulv. potass. nitratis, ℈ij ad ʒiss
Sp. ammon. aromat., f. ʒvj ad f.ʒj
Potassii iodidi, ʒss ad ʒj
Syrupi zingiberis, f.ʒj
Aq. pur., ad f.ʒvj. M.

A tablespoonful to be taken every one, two, or three hours, during the urgency of the symptoms.

Sometimes he gives a dose of calomel, gr. v. ad gr. x., if there is a bilious taint either of skin or breath. Rarely are leeches necessary; and at this stage he never uses injections. Within a few hours marked relief is obtained. The opium dominates the pain, and frees the system from its depressing influence: and the beneficial action of the alkalies on the blood, in this, as in many acute inflammatory affections, is most marked. He gives no alcoholic stimulants, and restricts the patient to a purely milk diet.

The above treatment requires very little alteration in most cases, till a cure is effected. Another point in this plan is that the bowels are kept quiet. If they do not act for three or four days, so much the better, as by that means the inflamed and enlarged uterus is neither pinched nor disturbed by excessive peristaltic movement; they of themselves, however, act about the fourth day; but if they do not, a dose of sod. et potas. tart. and rhubarb is sufficient to effect that object.

VAGINISMUS AND DYSPAREUNIA.

This common and distressing affection is frequently a neurosis, without visible cause; but it is also, at times, owing to herpes, vaginal fissure, hypertrophied and painful papillæ, mucous patches, or disease of the urethra. These various conditions require appropriate treatment.

F. WEBER, M. D., OF ST. PETERSBURG,

Has found (*Allg. Med. Zeitung*, January, 1878), that the most common causes of the affection, he thinks, are a rigid condition of the hymen, gonorrheal or catarrhal inflammation of the vagina, and also cicatrices, ulceration, or excoriation, of the vulva and outer parts of the vagina.

Organic contraction should be treated by methodical dilatation, at first with compressed sponge, and subsequently with Fergusson's specula, the size of which should be gradually increased. An ointment of *belladonna* is of great service at the same time. Inflammation of the vagina should be treated with cloths wet with a solution of sugar of lead, injections with or without opium, and belladonna suppositories. In the later stages, cauterization, with a solution of nitrate of silver, gives excellent results. This is especially serviceable when there are excoriations. Warm hip baths lessen the irritability of the nerves, and are of service. In addition to the local treatment, tonics and nervines should be used —especially bromide of potassium, iron, and valerian. When no local trouble is to be found, and the sufferings of the patient are very severe, division of the nervus pudendus, as recommended by SIMPSON and SIMS, should be practised. The removal of the hymen itself or the myrtiform caruncule, WEBER has never found necessary, though it has been repeatedly done by SIMS and others.

M. T. GALLARD, M. D., OF PARIS,

Recommends where there is redness or excoriation of the mucous membrane, an iodoform ointment, as:

193. ℞. Iodoformi,
Ol. theobromæ, āā ʒss
Axungiæ recentis, ʒiv. M.

If there is only pain, without any apparent alteration of the mucous membrane, he prescribes:

194. ℞. Ext. belladonnæ, gr.xlv.
Axungiæ recentis, gr.xlv. M.

In either case he directs to be made plugs of charpie, as small as they choose to commence with, and in order not to frighten the patient, he charges her with the making of them, instructing her to count the threads which enter into each of these plugs, to be introduced into the vagina each night, after being anointed with one or the other of the two ointments mentioned above. If at first she uses the iodoform, she will be able, after a few days, to replace it by the belladonna, when the redness or excoriations or the eruption of the vulvar region has disappeared. Only, in either case, care must be taken to increase each day, by an imperceptible amount, but previously determined, the number of threads employed, 10, 12 or 15, for example. So we shall secure, after a time, which will never be very long, the use of a plug of such size that, after having removed it, the place may be supplied by the virile member without the substitution causing any pain. He attributes the cure in these cases chiefly to the narcotic action of the unguents applied, though not denying that there may be advantage in the mechanical effect of the dilatation also.

He utterly condemns all use of the knife in such cases, unless, possibly, when the carunculæ myrtiformes are inflamed, swollen or ulcerated, when he would sometimes admit the ablation of these as a more speedy mode of cure than treatment by caustic only.

DR. EUGENE BOUCHUT, PARIS.

195. ℞. Extracti krameriæ, ʒss
Butyri cacaonis, ʒj. M.

Make twelve suppositories. One to be introduced into the vagina night and morning. Valuable where there is vaginal fissure.

PROFESSOR CARL SCHROEDER, OF ERLANGEN.

Bathe the external genitals cautiously with dilute lead water, and afterward, when the redness has subsided, pencil the sensitive parts with:

196. ℞. Argenti nitratis, ʒijss
Aquæ destillatæ, f.ʒj. M.

Or with,

197. ℞. Acidi carbolici, gr.x
Aquæ, f.℥j. M.

This was also the treatment preferred by Prof. SCANZONI, and in many instances it is entirely successful, and dispenses with the severe surgical measures introduced by SIMPSON, SIMS, and others.

W. H. BYFORD, M. D., CHICAGO.

This writer treats vaginismus by applying the solid nitrate of silver to the vulva every ten or fourteen days, and in the interval, glycerine and tannin. The first application reduces the sensitiveness decidedly, and it becomes less after each successive touch until finally cured. Rational general treatment should always accompany this local one.

Mr. I. BAKER BROWN has noted that hyperaesthesia of the vagina is occasionally dependent on diseases of the *rectum*, especially fissure, and disappears when this condition is removed. (*Surg. Dis. of Women.*)

As parturition would almost certainly relieve this condition, a simple and sure cure could be effected by fertile coition, carried out when the patient was thoroughly under the influence of ether.

RÉSUMÉ OF REMEDIES.

Acidum Carbolicum. (See. F 197).

Argenti Nitras, locally applied (F. 196).

Atropia. Dr. PEASLEE recommends:

198. ℞. Atropiæ, gr.ij
Adipis, ℥j. M.
For local use.

Belladonna is useful at times (F. 194).

Ice. The application of finger-shaped pieces of ice in the vagina is recommended by HOLST.

Iodoformum is praised by LEBLOND and others. It may be given in suppositories, each containing gr.x

Krameria has been employed by BOUCHUT (F. 195).

Opium. A full dose of opium, or a hypodermic injection of morphia, will sometimes relax the spasm of the constrictor muscle, and relieve the symptoms (FONNSAGRIVES).

Plumbum. Goulard's extract is often exceedingly soothing.

Stramonium is occasionally beneficial.

VAGINAL GROWTHS.

The vegetations and warts which form on the labia may be removed by the knife or scissors. Dr. E. J. TILT uses the latter, and touches the seat of growth with acid nitrate of mercury. The application to them of crystallized acetic acid is said to remove them without pain.

For *caruncle of the urethra*, Dr. WM. GOODELL recommends the actual cautery, as a red-hot knitting needle. The after treatment is the application twice a week of the undiluted commercial carbolic acid, which will prevent a crop of small growths springing up around the site of the parent growth. When the patient will not submit to the knife or the cautery, the next best procedure is to touch the growth twice a week with crystallized carbolic acid made fluid by heat.

Dr. A. W. EDIS recommends (*Brit. Med. Jour.*, April, 1874), a saturated solution of *chromic acid* in these growths, applied as above mentioned for carbolic acid, and afterwards neutralized by pledgets of lint dipped in a strong solution of sodium carbonate

For non-syphilitic warts and papillomatous growths of the vulva and parts adjacent, Dr. HENRY G. PIFFARD, of New York (note to PHILLIPS, *Materia Medica*,) has used with the utmost satisfaction a strong tincture of the *arbor vitæ*, *Thuja occidentalis*, applied to the part three times a day for a week or fortnight.

Dr. GRAILLY HEWITT suggests the use of strong nitric acid or lunar caustic. Black wash, or a strong solution of iodide of potassium, should then be applied.

Dr. G. S. BEDFORD removes these excrescences, or when small, sprinkles them once a day with:

199. ℞. Cupri acetatis,
Sabinæ, āā gr.vj. M.

Dr. F. J. BUMSTEAD removes these growths, or, when quite small, touches them with glacial acetic acid, or fuming nitric acid; as the eschar falls, repeating as may be necessary. In obstinate cases, he employs a solution of chromic acid 100 grains to the ounce. Or, corrosive sublimate in collodion ʒj to f.ʒj, may be applied over the whole surface. The perchloride or subsulphate

of iron often proves useful, applying it once or twice a day to the growth, which shrivels and falls, and a few applications will prevent its return.

Where vegetations are flat and horny, ZEISSL gives:

200. ℞. Acidi arseniosi, gr.ij
Ung. hydrarg., ʒj. M.

Or,

201. ℞. Arsenici iodidi, gr.ij
Ung. hydrarg., ʒj. M.

Dr. PETERS, of Prague, has found the simple application of cold poultices to cause these growths to disappear, after they had resisted cauterization and even excision.

PRURITUS VULVÆ SEU VAGINAE, AND VULVITIS.

The most common causes of itching of the vulva are pediculi, irritating vaginal leucorrhea, eczema, erythema, diabetes, vesical calculus, herpes tonsurans, abnormal growths, cervical endometritis, the presence of small bristly hairs on the vulva, seat worms, leptothrix vaginalis and simple nervous pruritus. In all cases the treatment, when practicable, should be with reference to the causation in the particular case.

PROFESSOR CARL SCHROEDER, ERLANGEN.

Of actual curative agents, this writer (*Ziemssen's Cyclopædia*) can only speak with confidence of:

202.	℞.	Acidi carbolici,		gtt.iv–l	
		Glycerinæ,			
		Aquæ,	ää	f.℥ss.	M.

Apply locally.

He says of this combination: "I am sure that whoever has once tried this, will never return to any of the other remedies which have been recommended."

A. C. GARRATT, M. D., BOSTON.

203.	℞.	Acidi hydrocyanici (Scheele's),	f.℥ij	
		Liquoris plumbi subacetatis,	f.℥iv	
		Aquæ,	f.℥iij.	M.

As a local application.

Dr. HORATIO R. STORER, of Newport, R. I., states that he has long given great comfort in this affection by Oldham's ointment of hydrocyanic acid and acetate of lead, with cocoa butter.

Dr. G. S. JONES, of Boston, has employed with benefit, in pruritus of the vulva, the following:

204.	℞.	Sodii biboratis,	℥j	
		Camphoræ,	℥j	
		Olei gaultheriæ,	gtt.xxx	
		Aquæ bullientis,	Oij.	M.

When cool, pass through a cloth. To be used cold, as a wash for the parts, and as an injection into the vagina.

For pruritus, produced by irritating leucorrheal discharges, Dr.

A. R. JACKSON, of Chicago, has used, with gratifying results, the following:

205. ℞. Zinci sulpho-carbolatis, ℥ss
Aquæ, f.℥viij. M.
Wash the parts twice daily, leaving it to dry upon the surface

PROF. MONTROSE A. PALLEN, M. D., NEW YORK.

This gynecologist has found pruritus pudendalis in pregnancy to yield in nearly every instance, except when it depends on trophic neuric causes, to the application of *thymolized clay*.

206. ℞. Thymol, gr.xv
Vaseline, gr.xxx
Powdered brick clay, ℥iij.
Dissolve the thymol in the vaseline, and rub it up with the clay.

This is introduced into the vagina or applied to the pruritic parts, to be washed out every day or two and replaced. Herpes, eczema, and kindred affections, so often encountered in the later months of gestation, are similarly benefited by this antisepsis, more particularly if produced by the acrid discharges from the cervix and vagina. (*Richmond and Louisville Med. Journal*, 1878.)

In diabetic cases, Professor WINCKEL (*Practitioner*, Sept., 1876,) states that by the administration of Carlsbad salts internally, and a salicylic acid lotion externally, he can generally effect a cure.

Dr. B. HICKS (*Lancet*, Vol. I, 1877, p. 456,) has made some good observations upon the same subject, and, also, on the very frequent association of eczema with diabetes. *Codeia* has proved most valuable, in Dr. HICKS' hands, in allaying the irritation. Nothing approaches in value, according to Dr. RICHARD NEAL, of London, a solution of *boracic acid* as a local application. Professor HARDY (*Medical Times and Gazette*, July, 1877, p. 98,) reports on pruriginous and other affections of the genitals in both males and females as symptoms of diabetes. That such symptoms are frequently associated with diabetes is certain. Well-marked instances of pruriginous vulvitis, where no trace of sugar exists in the urine, are, of course, of frequent occurrence.

E. J. TILT, M. D., LONDON.

Eczema genitale. Irritation and pruritus of the genitals is not unfrequently owing to an eczematous condition of their surface. This is especially the case in fat women of middle age with gouty

antecedents. As lotions or as injections, when the eczema extends to the inner surface of the vagina, the following prescriptions are recommended:

207. ℞. Bismuthi subnitratis, ℥iij
Pulv. tragacanth., ℥j
Aquæ, Oss. M.

Or,

208. ℞. Zinci oxidi,
Calaminæ prep., āā ℥ij
Acidi hydrocyan. diluti,
Glycerinæ, āā f.℥ij
Liquorem calcis, ad f.℥viij. M.

Or,

209. ℞. Zinci oxidi, ℥j
Glycerinæ,
Aquæ calcis, āā f.℥j.

Rub up the zinc with the glycerine, and add the lime water.

These lotions should be applied several times a day, and the parts may be anointed with petroleum ointment. Constitutional treatment addressed to the diathesis is very important in these cases.

Mr. LAWSON TAIT says of eczema of the genitals that it is in some cases the most distressing disease he has ever witnessed. For its relief, it is necessary to determine whether it is due to the presence of parasites or of some irritating discharge from the vagina. He has repeatedly cured patients with chronic eczema of the genitals by first curing them of chronic endomlesitis. In elderly women of gouty diathesis, colchicum and acetate of potassa, continued for some months, have relieved some bad cases. Local applications are often useful, but what suits one may not another. Puff powder, the cold sitz baths, simple cerate, Goulard's water, opiate fomentations, tarry preparations, etc., may be tried in turn. But the most generally useful applications he has found to be strong carbolic acid, and a concentrated solution of acetate of lead in glycerine. The carbolic acid must be used cautiously, and not over a large surface at one time; or it must be used weak, and its strength gradually increased. He has repeatedly seen one application of it relieve the patient for some weeks. If applied widely or in a concentrated form, the patient should be put under an anæsthetic.

RÉSUMÉ OF REMEDIES.

LOCAL APPLICATIONS.

Acidum Boracicum is praised in the diabetic form (p. 180).

Acidum Sulphurosum. Lotions and injections of sulphurous acid have been found effective in cases dependent on vaginal discharges.

Aconitia, in ointment, is approved by Dr. T. H. TANNER.

Aluminæ Nitras. Dr. GILL, of St Louis, in the St. Louis *Medical and Surgical Journal,* recommends the use of nitrate of alumina. It has, in his hands, given more satisfaction than any other remedy. He orders four to six grains to the ounce of soft water, to be used as a vaginal injection or external wash, once or twice a day if necessary.

Ammonii Murias, in the following ointment, is useful:

210.	℞.	Ammonii muriatis,	ʒj	
		Pulveris helleboris albæ,	℥ss	
		Adipis,	ʒiij.	M.

Ammoniæ Aqua sometimes succeeds in obstinate cases like a charm, when injected in diluted form into the vagina:

211.	℞.	Ammoniæ aquæ,	f.ʒss–j	
		Aquæ,	Oss.	M.

To be freely injected into the vagina.

Aqua Calcis, applied warm, together with perfect rest and light clothing, will sometimes afford the desired relief.

Aqua Fervida. One of the most efficient means in relieving the pruritus occurring in pregnancy is hot water, applied by means of flannel cloths wrung out of that fluid and laid upon the parts.

Argenti Nitras. Dr. GRAILLY HEWITT, of London, states that in obstinate cases a rather strong cauterization of the os uteri, with the solid nitrate, will sometimes succeed when other measures fail. Dr. CHARLES, (*Annales de Gynécologie*) also speaks most highly of the application of the solid nitrate of silver in the treatment of vulva pruritus. The seat of the itching is oftenest near the clitoris, or in the nymphæ, sometimes at the margin of the anus. It is necessary to cauterize freely, passing the crayon two or three times over the affected surfaces, and even somewhat beyond them. Dr. CHARLES states that he has found, without a single exception, great relief from the first cauterization, often a complete cure. Sometimes it is necessary to recur to the cauterization a second or third time after some days. Dr. TILT rubs the parts for several minutes with a piece of cotton soaked in a forty grain solution of silver nitrate.

Camphora, in powder, with starch, dusted over the parts, sometimes removes the distressing symptoms.

**Carbolicum Acidum* is exceedingly efficient in very many cases (F. 199).

**Chloral,* by Prof. J. R. BLACK, of Ohio:

212. ℞. Chloral hydratis, ʒiij
Aquæ, f.ʒiv. M.
Apply locally.

In cases of pruritus vulvæ, where the cause seems to be attributable to irritation simply of the nerves, whether in the pregnant condition or otherwise, Dr. C. O. WRIGHT, of Cincinnati, (*American Journal Obstetrics*, July, 1879,) states that he knows of no remedy equal to the local application of chloral hydrate, either in solution or in the form of an ointment. Here it acts by direct contact, producing an anæsthetic influence upon the peripheral extremities of the nerves, and acting by reflex action upon the nerve itself.

* *Chloroformum.* Dr. GRAILLY HEWITT, of London, obtains the greatest benefit from the application of:

213. ℞. Chloroformi, f.ʒss
Olei amygdalæ expressi, f.ʒiij. M.

Crasotum. A weak solution is sometimes useful.

Ferri Chloridi Tinctura in varying strength will often be valuable. BYFORD recommends ʒj to water Oj. and adds that it is especially useful where there is no eruption, and when there is leucorrhea and a congested dark appearance of the mucous membrane.

Hydrargyri Oxidi Rubri Unguentum, well diluted with cod-liver oil, is frequently an effectual application.

**Hydrargyri Chloridum Corrosivum.* The favorite formula of ERASMUS WILSON, of London, is the following:

214. ℞. Hydrargyri chloridi corrosivi, gr.v–x
Spiritûs rosmarini,
Alcoholis, āā f.ʒj
Misturæ amygdalæ amaræ, f.ʒvj. M.

Another formula, said to be effective, is given by Dr. MILTON (*Medical Press*, March 11th, 1868):

215. ℞. Hydrargyri chloridi corrosivi, gr.iv
Bismuthi oxidi, gr.xxx
Acidi hydrocyanici diluti, ♏xxx
Aquam calcis, ad f.ʒviij. M.
Apply warm, twice or thrice daily.

Hydrargyri Unguentum is advised locally by Dr. RINGER, of London.

Hydrocyanicum Acidum Dilutum is recommended, largely diluted, by Dr. WEST, of London. It must not be applied too freely, nor over abraded surfaces:

216. ℞. Acidi hydrocyanici diluti, ♏x–xl
Glycerinæ, f.ʒj. M.

Iodinium. The tincture, locally applied, often affords relief.

Menthæ Oleum or Essentia. In the *Medical and Surgical Reporter*, Vol. XL., 1879, a writer reports a most obstinate case promptly relieved by the occasional application of essence of peppermint.

Morphia, subcutaneously, deserves trial in severe cases.

**Olivæ Oleum*, spread over the parts with a feather, sometimes allays the pruritus.

Pix Liquida. A glycerole of tar sometimes succeeds:

217. ℞. Glycerine,
Tar, āā ½ lb
Starch, ½ oz.

Heat the tar and glycerine separately, rub up the starch with the glycerine, mix, bring to the boiling point, and cool.

Plumbi Subacetatis Liquor Dilutus. The following soothing application is a useful one:

218. ℞. Liquoris plumbi subacetatis diluti, f.℥j
Tincturæ hyoscyami, f.℥ij
Misturæ camphoræ, f.℥viij. M.

To be applied tepid. Rest and an antiphlogistic regimen are at the same time to be ordered.

Sodii Boras. The following formula is advised by Dr. WEST, of London:

219. ℞. Sodii boratis, ℥iv
Morphiæ muriatis, gr.viij
Aquæ rosæ, f.℥x. M.

Sodæ Chlorinatæ Liquor, diluted, has been employed with success:

220. ℞. Liquoris sodæ chlorinatæ, f.℥vj
Aquæ, f.℥xij. M.

Sodii Sulphis has been favorably reported on.

221. ℞. Sodii sulphitis, ℥j
Aquæ, f.℥iij
Glycerinæ, f.℥j. M.

Tabacum. Dr. TANNER recommends a lotion of an infusion of tobacco ℥ij to a pint of boiling water.

Tanacetum. A poultice of tansey leaves applied as hot as the patient can bear it, is said, by Dr. R. L. BUTT, of Alabama, to be efficient in obstinate cases. (*American Practitioner*, Aug., 1877.)

Thymol may be tried. (F. 206.)

Zinci Oxidum. For erythema and pruritus vulvæ Dr. BRAUN-FERNWALD, of Vienna, recommends:

222. ℞. Unguenti petrolei, 5 grammes
Unguenti cetacei, 3 "
Zinci oxidi, 3 " M.

An ointment for local use.

CYSTITIS.

E. J. TILT, M. D., OF LONDON.

The first thing to do in an attack of ordinary acute cystitis, is to put the patient to bed; give a warm hip bath and warm vaginal injections; and if the pain is severe, leech the abdomen and cover with an anodyne poultice. A rectal suppository of opium, gr.ij, will give ease, and gr.v–x of extract of hyoscyamus a day, in pill form, is not to be omitted. The urine should be rendered bland by alkalies, and the patient should drink freely alkaline and mucilaginous fluids.

Cystitis may be caused by pelvic peritonitis, by tumors of the womb or ovaries, by prolapse, procidentia, etc. In such cases these conditions must be remedied before permanent relief of the vesical inflammation can be expected.

A. J. C. SKENE, M. D., OF NEW YORK.

Existing constipation should be overcome by the free use of saline laxatives. The diet should be carefully regulated. An exclusive milk diet has been found sufficient to cure some chronic cases.

Benzoic acid is perhaps the drug that will be found the most useful in the earlier stages in the largest number of cases. It often seems to act as a specific, giving speedy and permanent relief.

223. ℞. Acidi benzoici,
Sodii biboratis, ā ā gr.x
Infusi buchu, f.℥ij. M.
This amount three or four times a day.

The borax is added to insure the solution of the acid. *Benzoate of ammonia* is more palatable, and acts equally well in the same dose.

In the more advanced stages of the disease, balsam of Peru, copaiba, and oil of turpentine, are important remedies. They should be given in capsules, the same as in gonorrhea. When the pain is not severe and the urine is loaded with mucus and pus, astringents should be given, as the following, which Dr. S. has employed with good effect:

224. ℞. Extracti buchu fluidi, f.℥ij
Tincturæ conii, f.℥j
Morphiæ sulphatis, gr. iss. M.
A teaspoonful every three or four hours.

The salicylate of sodium and the sulpho-carbolates have been exhibited with advantage.

In old and obstinate cases the bladder must be washed out and medicated injections used. Of these, the following may be employed to relieve pain:

225. ℞. Chloral hydratis, gr. x–xv
Aquæ, f.℥j. M.
For an injection in this proportion.

As astringents and alteratives, nitrate of silver, sulphate of zinc, tannic acid, and acetate of lead; of either beginning with gr. i–ij to water f.℥j, are the most efficient. When the urine is alkaline and offensive from long retention, nitro-hydrochloric acid, gtt.ij to water f.℥j, should be used.

In obstinate cases, nitrate of silver, gr.xx to water f.℥j, is one of the most reliable remedies. Of this strong solution not more than five or ten drops should be used at a time.

As a last resort in painful and incurable cases, Dr. EMMET has established an artificial vesico-vaginal fistula, which maintains complete drainage, and is sure to relieve and perhaps will cure. The same object may be accomplished at times by a permanent catheter.

E. C. GEHRUNG, M. D., OF ST. LOUIS.

In acute cystitis, and in acute exacerbations of chronic cystitis, this practitioner (*St. Louis Courier of Medicine*, Aug., 1879.) has derived extraordinary advantage from elevating and fixing the bladder by means of filling the vagina with a cotton tampon. He uses dry cotton batting. He first surrounds the uterine neck with a few small wads of this substance. This is followed by a large wad or two, thoroughly compressed between the fingers to facilitate the introduction into the vagina, where, when let loose, it will enlarge by its inherent elasticity and fill this cavity. Thus, after careful adjustment of these wads, the bladder will be elevated and compressed against the pubes and abdominal walls, so to speak, between two elastic media.

The patient expresses herself as decidedly relieved, and can at

once rise to her feet and feel comfortable. The tampon should be removed and re-applied twice or thrice in the twenty-four hours.

S. F. GILBERT, M. D., OF ELYSBURG, PENNSYLVANIA.

In severe cases, the use of injections of tannic and salicylic acids into the bladder, is recommended by this writer (*Med. and Surg. Reporter*, March 24, 1879). After washing out the bladder with warm water several times, he throws in the following:

226. ℞. Acidi tannici, gr.x
Acidi salicylici, gr.ij
Aquæ, f.℥iv. M.

For an injection. Retaining it ten or fifteen minutes, then removing it and again washing the bladder out with warm water, to prevent the hardening of blood or mucus by the acids.

GRAILLY HEWITT, M. D., LONDON.

The timely use of the bladder, after labor, will prevent that destructive *cystitis*, which may be produced by inability to evacuate the bladder. When it is present, with fever, pain, and tenderness, leeches may be required. Demulcent liquids, as barley-water, should be used, and all irritants avoided. *Rest* is exceedingly important. In the *chronic* form, it is best treated with *diluted mineral acids; uva ursi* and *pareira brava* are serviceable in combination with diluted nitro-muriatic acid. Sir HENRY THOMPSON used a decoction of the *triticum repens* in the male with great good results, and Dr. HEWITT has found it of equal service in women. He has seen great benefit from counter-irritation just above the symphysis. The general treatment is important. Some require liberal diet, others the reverse.

PROF. ROBERT BARNES, M. D., LONDON.

Diminish the irritating qualities of the urine; everything known to promote dyspepsia and lithiasis or oxalmia, must be avoided. Demulcents, then tonics, may be used. If lithiasis is present, use alkalies, as soda, potassa, or lithia. More commonly there is the phosphatic condition, with ammoniacal urine; here give mineral acids and tonics in moderate doses. Warm baths often afford great relief when there is great pain or spasm.

URETHRITIS.

E. J. TILT, M. D., OF LONDON.

When the difficulty or pain of micturition is not relieved by diluents, warm hip-baths and poultices, urethritis may be suspected. In this case the urethra can be felt with the finger to be round, solid, enlarged, and painful to the touch. Cooling injections and mucilaginous drinks are called for, and if these do not answer, a *tannin bougie* should be introduced into the urethra three or four times, at five days' interval.

Tannin bougies are made by dipping medium sized bougies into gum water, powdering them with tannin, letting them dry, and after rubbing off the roughness, dipping them in gum water previous to using them.

In the event of these failing, a stick of nitrate of silver may be rapidly passed into the passage.

A. W. SAXE, M. D., OF CALIFORNIA.

This writer describes *catarrhal urethritis* distinguished from gonorrheal inflammation by, 1st, the history of the case and moral probabilities; 2d, by the absence of tenesmus in most cases of the gonorrheal variety; and 3d, by the absence of that profuse muco-purulent discharge which is inseparable from the early stages of the gonorrheal disease.

It would be difficult to say what remedies *have not* been used in the treatment of this affection in its various stages and phases. The catalogue includes nux vomica, pareira brava, buchu, uva ursi, vaginal injections and suppositories, opiates, prussic acid, copaiba, and cubebs, and lately, the injection of normal urine into the bladder, etc., etc. (*Pacific Med. and Surg. Jour.*, Apr., 1874.)

His plan of treatment is as follows:

1st. Horizontal position in bed indispensable.

2d. Hot applications to the feet, with hot diluent drinks, so as to induce diaphoresis, if possible.

3d. The administration, every two hours, of the following:

227. ℞. Hydrarg. chlor. mitis, gr. xxxvj
Pulv. ipecac., gr. viij. M.

Divide in chart. No. xij. Sig.—Dose one powder in a little syrup every two hours, until six are taken. Then follow with decoct. sennæ, q. s., to induce action and free evacuation of the bowels. Diet very light and simple; drinks, mucilaginous; decoctions of elm bark or flaxseed are best, and are rendered palatable by the addition of a little orange peel, sugar, tartaric acid, or lemon juice.

The only sedative or anodyne admissible is a cold, wet napkin to the vulva, changed sufficiently often to insure a low temperature. Opiates are injurious. Chloral hydrate, gr. xv to xx, at night, less objectionable, is seldom necessary.

If, after the first twelve hours, and after the bowels have been freely evacuated, there is still much pain in passing the urine, or if there is any tenderness or tenesmus, the remaining powders should be given and followed by the laxative as before, after which it will be, in general, only necessary to keep the patient in bed for a few days, and to see that the bowels are kept open by neutral or alkaline salts every morning. This, with moderately improved diet and mucilages, will insure a perfect and speedy recovery.

The pulverized ipecac. is a very important adjuvant to the alterative, but the quantity must be restricted to the tolerance of the stomach; a half grain will be sufficient in all delicate stomachs, and in many it will be too much. But whatever the stomach will tolerate without emesis, is the maximum.

THOS. ADDIS EMMET, M. D., NEW YORK.

Keep the patient recumbent, the bowels free by salines, and the urine bland. Use hot water vaginal injections and warm sitz-baths Also wash out the urethral tract several times a day with warm water. After washing out the urethra, the extract of *pinus canadensis*, to which a little impure carbolic acid has been added, should be thoroughly applied. Sometimes the application of a weak solution of nitrate of silver, or of impure carbolic acid, will be found useful. As the case improves, vaseline or a little tannin and glycerine will protect the parts sufficiently.

URINARY DISORDERS—IRRITABLE BLADDER, DYSURIA POLYURIA, ISCHURIA, ETC.

PROF. WM. GOODELL, M. D., PHILADELPHIA.

In almost every form of vesical irritation, belladonna and its alkaloid atropia are valuable remedies. Dr. GOODELL generally gives it according to the following prescription, which he can recommend:

228. ℞. Atropiæ, gr.j
Acidi acetici, gtt.xx
Alcoholis,
Aquæ, āā f.℥iv. M.

Four drops before each meal in a wineglassful of water. To be increased or diminished according to the constitutional effect.

In that form of irritability which consists in an inability to hold the water on slight exertion, such as coughing, laughing, running, etc., the cause is generally relaxation of the fibres. Ferruginous preparations are here demanded, and with them the best remedy is a combination of tincture of belladonna, tincture of nox vomica and fluid extract of ergot. If this fails, the next resort would be the application of carbolic or even nitric acid to the urethra, with proper hygienic treatment.

A. J. C. SKENE, M. D., OF BROOKLYN. *

Where the irritability is a pure neurosis, the general system demands most attention. Tonics, a well-ordered diet, change of scene and cheerful company, are required. The bowels should be kept moderately open, and small doses of strychnia administered. Locally, a cup of warm hop tea containing twenty to forty drops of laudanum may be injected into the rectum, or an opium suppository combined with belladonna or hyoscyamus; or the following:

229. ℞. Chloral hydratis, gr.xv
Aquæ, f.℥j–ij.

For a rectal injection.

Masturbation, malaria and hysteria, are occasional exciting

* *Diseases of the Bladder and Urethra in Women*, New York, 1878.

causes of the complaint, and demand appropriate treatment. Abnormal conditions of the urine are also frequent causes. In all cases the urine should be tested. If acid, alkalies are required. In excessive acidity with deposits of uric acid, the following is a very efficient combination:

230. ℞. Potassii bicarbonatis,
Potassii citratis, āā ʒss
Syrupi simplicis, ʒiv. M.
Take a teaspoonful in half a tumbler of water, adding ʒj of lemon juice. Drink while effervescing.

In oxaluria the following prescription is looked upon by many as almost a specific:

231. ℞. Acidi nitro-muriatici diluti, ʒv–vj
Tincturæ nucis vomicæ, ʒiij
Olei gaultheriæ, ♏xij
Aquam, ad f.ʒiij. M.
A teaspoonful in water before each meal. Many of the slightly alkaline mineral spring waters will also be found of use.

DR. JOHN S. WARREN, OF NEW YORK.

Dysuria is common complaint among females, and may be owing to vascular growths about the urethral meatus, inflammatory affections of the urethra, anteflexion, etc. (*N. Y. Medical Journal*, 1878.)

The growths are of all sizes and forms, varying from a slightly congested and hypertrophied condition of the mucous membrane of the canal to the size of a full-grown raspberry, to which indeed, it bears no small resemblance. It is generally situated at the meatus externus, and therefore, readily discoverable by an ocular examination after separation of the labia, though not infrequently it is a little further distant within, and in such cases he has made use of the ordinary ear-specula for their detection and treatment. This tumor may be pedunculated or sessile in growth, is a bright scarlet color, easy to tear and bleed, and, as a rule, exquisitely tender and sensitive to the touch; so that urination, coition, friction from clothing or from washing, give the most intense pain and suffering.

The treatment for the removal of these painful growths is excision by the scissors, cauterization by the actual cautery, nitric or carbolic acids, the silk ligature, and the snare—the one used for aural purposes is best adapted, and is especially useful when the

caruncle is situated some little distance from the meatus; here, too, the ear-specula or a glass tube is very useful for caustic application to the diseased portions of the urethra; for when the growth is sessile in character, its complete destruction by a powerful escharotic, like nitric acid, or the actual cautery, is necessary.

DR. BRABAZON.

Irritable Bladder. In this annoying complaint, this writer (*Brit. Med. Jour.*, 1879,) has found the following injection of great service:

232. ℞. Argenti nitratis, gr.ij
Extracti belladonnæ, gr.vj
Aquæ destill., f.℥ij. M.

For an injection. This solution should be injected twice a week, and allowed to remain in the bladder for about from three to five minutes, and then withdrawn through the canula. Several months may be necessary for a cure.

Incontinence of urine is often best treated by forcible dilatations of the urethra, for which WEISS' Female Urethral Dilator may be used.

[For the treatment of Cystitis, Incontinence of Urine, Irritable Bladder and allied conditions, see NAPHEYS' *Surgical Therapeutics*, Chap. XI.]

PART II.

OBSTETRICAL THERAPEUTICS.

CHAPTER I.

THE DISORDERS OF PREGNANCY.

The Hygiene of the Puerperal State—Abortion and Premature Labor (Prevention and Induction)—Vomiting and Nausea of Pregnancy—Sympathetic Nervous Disorders (Palpitation, Syncope, Neuralgia, Pruritus, etc.)—Digestive Derangements of Pregnancy (Dyspepsia, Constipation, Diarrhea, Hemorrhoids, Albuminuria).

HYGIENE OF THE PUERPERAL STATE.

In order that the child-bearing woman may be enabled to give birth to a healthy offspring, that the act of delivery may be accomplished with safety to both mother and child, and that her subsequent getting up may not be impeded by debility, etc., it is absolutely imperative that, from the inception of pregnancy, she should be placed under the best hygienic surroundings. She requires an abundance of pure air, sunlight, moderate and careful exercise in the open air, plenty of nourishing and easily-digested food.

Cleanliness must never be neglected; tepid baths are always beneficial.

While sedentary habits are always detrimental, great exertions, as dancing, horse-riding, or rough carriage-riding, must be equally avoided.

There is no need of a special diet; she requires to continue her usual food, merely eschewing anything hard to digest, or particularly stimulating. The peculiar cravings incident to pregnancy may be indulged in moderation, unless they are for articles of a hurtful or doubtful character. Nor is it requisite to medicate her, save for the correction of abnormal conditions, as constipation, acid stomach, vomiting, etc.

Tight lacing, or clothing too tight in any way, will not fail to prove injurious.

In short, let her take the same precautions in the care of her health that she would take under all circumstances Mental

excitement in every form should be sedulously avoided, and she should be carefully surrounded by everything calculated to maintain a tranquil, happy disposition.

To prevent depressed nipples or any other condition of the mammæ likely to interfere with the proper performance of their functions, these parts must be protected from pressure by tight clothing, or cold from an insufficiency of covering.

Upon this subject we will speak at length in the proper order.

GEORGE H. NAPHEYS M. D., OF PHILADELPHIA.

This author, in his very excellent popular work on the hygiene of women, entitled *The Physical Life of Woman*, has collected together many valuable suggestions as to the care of the health of pregnant women; and when such a work is desired by married persons for their instruction, none better can be recommended. His recommendations briefly are with reference to

Food. This should be varied, light and nutritious, with a special regard to the idiosyncrasies of the person, which, it should be noted, are often quite different in pregnancy from the ordinary state. After the sixth month, an additional meal each day should be taken, so that the system can meet the unusual demands upon it for nourishment without overloading the stomach.

Clothing. This should be loose, the attempt at concealment, by tight dresses, so often made by young mothers, being especially avoided. Flannel drawers should be worn when the pregnancy is advanced. Pressure upon the lower limbs in the vicinity of the knee or the ankle joint should be avoided, more particularly during the last months. It is apt to produce enlargement of the veins, and finally varicose ulcers. The garters should not be tightly drawn, nor the gaiters too closely fitted, while yet they should firmly support the ankle.

Exercise. Dancing, lifting, carrying heavy weights, and similar forms of exercise, should be avoided. The same is true of horseback exercise and driving over rough roads. Journeys should be taken as little as possible. The vibrating motion and sudden jars incident to railroad traveling, often produce nausea and faintness; sea-sickness, with its violent vomiting, not infrequently leads to premature labor. Frequent short walks are the best form of exercise.

Sleep. A larger amount of sleep than usual is demanded in the

pregnant condition. Women should then lie abed late, and retire early, and a nap during the day is to be recommended. Late in pregnancy some women experience a sense of suffocation on lying down. They should sleep on a bed-chair, or propped up on pillows.

Mental Condition. Severe study, anxiety, and all exciting emotions and absorbing intellectual pursuits, should be suspended during pregnancy. The usual wide variations in the mental state, the feeling of despondency and that of exhilaration, should both be tempered by judicious representations of the groundlessness of the one and the risk of the other. The senses should not be over stimulated by rank odors, loud noises, or extremely sapid condiments.

Marital Relations. In the earlier months of pregnancy these may be moderately continued, except about the periods when the woman, if not pregnant, would have had her menses. In such cases the molimen is present, and coition tends to increase it and lead to abortion. In the last three months of pregnancy it is generally wiser to abstain wholly from sexual approaches.

ABORTION AND PREMATURE LABOR.

PROF. W. S. PLAYFAIR, M. D., EDINBURGH.

This author believes that we may hope to prevent an abortion if there is no dilatation of the os and the hemorrhage has not been excessive. But if the os be open, the finger can touch the ovum, and pains are present, the indication is that the ovum must be expelled. Place the patient in bed, keep her cool, give her light diet. She should not rise for any purpose. To avert uterine contractions, no remedy is so useful as *opium*, given freely and repeatedly, either in the form of the tincture or of Battley's sedative solution, say 20 to 30 minims, repeated in a few hours. Chlorodyne is still better, in doses of 15 minims every third or fourth hour. If advisable, as from irritability of the stomach, this may be given in starch by the rectum. The patient should be kept under the influence of the remedies for several days, until all symptoms have disappeared; at the same time avoid constipation, itself a source of irritation, by small doses of castor oil, or other gentle aperients.

Dr. R. P. HARRIS, American editor of Dr. Playfair's work, speaks emphatically of the value of opium in these cases.

As a prophylactic of the tendency to abortion, remove the causes when known, as a syphilitic taint and constitutional debility. Retroflexion of the uterus may be relieved by a pessary, until the uterus has risen out of the pelvis.

Syphilitic infection should always be inquired for, where frequent abortions occur, and both husband and wife should be placed under anti-syphilitic remedies. DIDAY insists that at each impregnation the mother should be thus treated, even though she exhibit no traces of the disease. Thus we may hope that infection of the ovum may be prevented.

In *fatty degeneration of the chorion villi* and other morbid states of the placenta, preventing proper nutrition of the fœtus, nothing can be done save to improve the mother's health. SIMPSON recommends *chlorate of potassa* when the child habitually dies in the latter months of pregnancy, with the idea of supplying oxygen to the blood. The theory is doubtful, though the drug may act well as a tonic. It may be given in doses of 15 to 20 grains three

times a day, and advantageously combined with dilute hydrochloric acid.

Where no appreciable cause can be discovered, prolonged rest, at least until the time has passed at which abortion usually has occurred, will give the best chance for its avoidance. Care will be necessary lest the health suffer from want of fresh air and exercise. The rest should be extremely strict at the menstrual periods; in the intervals, she may lie on a sofa and spend part of the time in the open air. Sexual intercourse should be prohibited.

When abortion is inevitable, we must favor the expulsion of the ovum. When the os is dilated, the pains strong, the ovum separated and protruding, depress the uterus from above by the left hand, and scoop out the ovum with the examining finger. If beyond reach, administer chloroform, pass the entire hand into the vagina, and the finger into the uterus. This is safer and more sure than the use of any form of ovum-forceps. When this fails, or the os is not dilated, plug the vagina. The best plan is with pledgets of cotton wool soaked in water. Each should be soaked also in glycerine to prevent the offensive odor which otherwise will arise. In six or eight hours remove the plug and insert a fresh one if requisite. Two or three full doses of liquid extract of *ergot*, f.℥ss to f.℥j each, or a subcutaneous injection of *ergotine*, may be given. These two excitants of uterine action, the plug and the ergot, often effect complete detachment, and the ovum is readily removed when the plug is withdrawn. When dilatation does not readily occur, it may be aided by tents, especially the sponge, which also acts as an effectual plug.

As long as the placenta or membranes are retained, septicemia is likely to occur, therefore it is important that they should be removed; and in the event of delay, fetor, and decomposition may be prevented by the use of intra-uterine injections of diluted Condy's fluid; not more than a drachm or two should be thrown in at once, and the os must be sufficiently patulous, or injury may result.

A. J. C. SKENE, M. D., OF NEW YORK.

This writer (*Half-Yearly Compendium*, July, 1876,) sums up the rules of practice in abortion as follows:

1. Where the symptoms of abortion are slight, and of short duration, efforts should be made to arrest it.

2. During dilatation of the os, opium should be given, if there is any call for it, and ergot should be carefully avoided.

3. Hemorrhage should be controlled by tamponing the cervix, the hydrostatic dilator being the best for that purpose.

4. When the os is fully dilated, and the ovum is not properly expelled after the use of ergot, it should be removed by the forceps and curette.

5. Post-partum hemorrhage should be arrested by ergot and the intra-uterine tampon.

The inflammation of the uterus, peritoneum, or cellular tissue, which may arise, should be treated on general principles.

PROF. WM. LEISHMAN, M. D., GLASGOW.

In some cases, it would seem as though the uterus had contracted a habit of abortion; hence we must tide over this period, and thus break up the habit.

The strictness of rest must be proportioned to the number of abortions; in obstinate cases, nothing but absolute confinement to bed will suffice. When irritations arise, liable to act reflexly on the uterus, these must be removed, as diarrhea, skin or bladder troubles, or even toothache. Caution the patient against tight lacing. When hemorrhage commences, rest on a hard mattress must be enjoined. The food should be non-stimulating, and meat sometimes is best avoided. *Opium* is the sheet anchor. *Chloral*, by the mouth or rectum, has been employed with success. Until the fœtus is known to be dead, act as though it were living. When, however, abortion is inevitable, as shown by discharge of the liquor amnii, profuse hemorrhage, and violent pains, in the first three months, the less we interfere the better, for experience shows that the ovum will generally escape entire, while manipulations may only serve to rupture the membranes, and thus cause retention of a part or the whole. Plug the vagina for hemorrhage, as suggested by DEWEES, with a large sponge filled with vinegar. Astringents are sometimes given with good effect, as acetate of lead, gallic acid, and the mineral acids. In more advanced pregnancy, oxytocics come into use. A simple enema or one containing turpentine will aid to excite uterine contractions. The placenta generally occasions the most difficulty. When this is retained, and the os closes, we must wait; the finger cannot be introduced, and ergot is of no use. Symptoms must be met as they arise.

When dilatation occurs, or severe flooding demands action, careful effort must be made to bring away any portion that may protrude. More reliance should be placed upon fingers than instruments.

After an abortion, the health should be built up by tonics as demanded, and fatigue and exertions should be avoided for a while.

ALFRED MEADOWS, M. D., OF LONDON.

Ergot is exhibited by this author in habitual abortion dependent upon a weakened atonic condition of the uterus (*Practitioner*, September, 1868). He commences in small doses (℥v–viij extracti ergotæ liquoris, *British Pharmacopœia*), as soon as pregnancy is known to exist, and continues it in increasing doses (℥xx–xxx), as long as it may seem necessary, certainly till after the period of the accustomed abortion, but with the occasional omission of a week or two. In unsuitable cases, this mode of treatment may be productive of mischief; for, as Dr. MEADOWS remarks, its employment is a matter of extreme delicacy, requiring a very careful discrimination of the cause of previous abortions, and of the actual present condition of the uterus.

On the general use of *opium* in abortion, it may be concluded, from the evidence offered, that it is of value in *threatened abortion* arising from accident, from mental causes, or from habit, when it may be given by the mouth, or in a cold starch injection thrown into the bowel, repeated every night, or oftener, according to circumstances; the application of cold, perfect quiet, and unstimulating diet, being at the same time enforced. When, however, abortion is threatened from fœtal disease or imperfection, so that the premature emptying of the uterus is but an effort of nature to get rid of that which she cannot accomplish, opium does harm, by retarding the emptying of the uterus, which must sooner or later take place. After *abortion has taken place*, opium allays excitement, tranquilizes the circulation, and procures sleep.

ROBERT BURNS, M. D., OF PHILADELPHIA,

Speaks highly of arsenic as a hemostatic, in doses of twenty minims of the liquor potassæ arsenitis, at intervals of half an hour, until some decided effect is produced.

When gestation has reached the fifth month, the membranes may be punctured to lessen the hemorrhage and facilitate expulsion. It is better to leave a portion of the membrane, etc., than to

employ forcible extraction, unless the discharge be excessive or offensive; then any fragments should be removed, and the vagina and uterus washed out with warm water. Generally, when all is away, the hemorrhage at once ceases. Even a very small portion will serve to keep up the discharge, and this is a valuable point for diagnosis and treatment. Prophylaxis will consist in local depletion and saline purgation in blood stases; support and tonics for debility; quiet, especially at the menstrual epochs; avoidance of sexual excitement, and sedatives when required. Chalybeate tonics are to be avoided, as encouraging abortion, though in anemia they are undoubtedly of great service.

TANNER, and LAFERLD, of Malta, regard *assafœtida* as a uterine tonic in weak, irritable women, where there is an absence of vascular congestion; *ergot* acts in this way, and may be given in doses of ten minims of the liquid extract every four, six or eight hours, and for two or three weeks at about the time when the abortion is expected from previous experience. In syphilitic taint, *bichloride of mercury* is invaluable.

PROF. KARL SCHROEDER, M. D., ERLANGEN.

To prevent the abortion, the woman should remain constantly in the dorsal position, and a few full doses of tincture of *opium* should be given by the mouth or rectum. When profuse hemorrhage threatens the life of the mother, the tampon, *mineral acids* and *ergot*, internally, and vinegar and cold water to the abdomen. The caoutchouc tampon is objectionable as it, when filled, only increases the tendency to dilatation of the os and uterine contractions. Lint pressed against the bleeding surface adheres and checks further flow; hence a small tampon will often suffice. Introduce the speculum, open it widely, and pack the lint entirely over the bleeding cervix, and then fill in behind this; withdraw the speculum while holding the plug closely in place with a long rod. At the end of six hours remove the tampon and reapply it if necessary. The hemorrhage may thus be entirely checked, or the ovum may be found lying loose within the cavity. As this method does not increase uterine action, hope may be entertained, even yet, of saving the ovum.

To remove the ovum, when necessary, HONING recommends the compression of the uterus by combined manipulation. Two fingers of the one hand are brought into the anterior vault of the

vagina, and placed against the body of the uterus, while the other hand presses from outside upon its posterior wall. Or, the uterus may be pressed from outside against the symphysis. This method of expulsion succeeds easily and perfectly.

After the hemorrhage is over, the patient is to be treated as a parturient woman If the ovum was putrefied, or decomposing shreds are found, injections of tepid water or infusion of chamomile should be used thrice a day.

J. G. SWAYNE, M. D., PHYSICIAN ACCOUCHEUR TO THE BRISTOL GENERAL HOSPITAL, ETC., ENGLAND.

The following formulæ are of service in cases of *accidental hemorrhage during pregnancy:*

233.	℞.	Acidi sulphurici diluti,	f.℥j	
		Tincturæ opii,	♏xl	
		Infusi rosæ compositi,	f.℥vj.	M.
Two tablespoonfuls every other hour.				
234.	℞.	Plumbi acetatis,	gr.xviij	
		Acidi acetici,	♏xx	
		Morphiæ acetatis,	gr.j	
		Aquæ destillatæ,	f.℥vj.	M.
Two tablespoonfuls every hour.				

The woman is also, of course, to be kept in a recumbent position, and cold compresses applied to the abdomen and vulva. Cold drinks and cold water enemata may be administered. By the employment of these expedients, the bleeding may be checked, and the patient carried in safety to the close of her pregnancy.

PROF. FLEETWOOD CHURCHILL, M. D., DUBLIN.

At an early stage, this author has repeatedly found the tincture of *Indian hemp* in doses of 5 or 6 drops every 2, 4, or 6 hours, to check the hemorrhage. The usual remedies failing, and the abortion being inevitable, and the hemorrhage becoming alarming, he employs, for the removal of the ovum, an instrument consisting of a steel rod divided into three claws at one extremity, which expand widely when set free. This is enclosed in a small flexible catheter, and the claws are thus closed; when retracted, the claws open. The ovum may thus be seized without danger to the uterus, and where it is impossible to introduce the hand. The introduction of the hand into the vagina and the fingers into the uterus is not free from danger. DEWEES employed a wire crotchet

to bring away the ovum, but the placental forceps of Dr. HENRY BOND, of Philadelphia, are perhaps the best for the purpose.

In cases of great flooding, the plug becomes necessary, and where the ovum is still retained, ½ drachm doses of ergot may be given occasionally.

INDUCTION OF PREMATURE LABOR.

CLEMENT GODSON, M. D., OF LONDON.

This writer (*St. Bartholomew's Hospital Reports*, 1875,) enumerates the following as the methods proposed for inducing premature labor:

1. Evacuation of the liquor amnii by puncturing the membranes
2. The administration of certain drugs, particularly ergot of rye.
3. The injection of water into the vagina.
4. The injection of water within the uterus.
5. The injection of atmospheric air or carbonic acid within the uterus.
6. Galvanism.
7. Irritation of the mammæ, by means of cupping-glasses.
8. Separation of the membranes from the uterine wall, as far as is practicable, with the finger.
9. Insertion of a long gum-elastic catheter between the membranes and the wall of the uterus.
10. Dilatation of the vagina by means of air-bags.
11. Dilatation of the os uteri by air-bags.
12. Dilatation of the os uteri by means of sponge tents.

Most of these are open to the objections that they are uncertain, or hazardous, or have unpleasant sequelæ.

Most of them are practiced in such a manner as to force on too hurriedly the uterine contractions; and that which consists in the evacuation of the liquor amnii stands self-condemned, as depriving the womb, at the very outset, of the all-important dilator provided by nature.

Dr. G.'s mode of procedure consists in insinuating, night and morning, between the cervix uteri and the membranes, sponge tents of gradually increasing size; the first, and each succeeding one, being as large as the parts will admit. On removing each tent, and before replacing it by another, a warm douche, containing Condy's fluid, is administered. He has found the use of one,

two, and three tents to be sufficient, and has never had occasion to employ more than four.

The instrument by means of which the tent is placed in position is made for him in London. It is fully described in the *Lancet*, April 22, 1871.

It entirely obviates the use of the speculum, and being provided with what is equivalent to a universal joint, it enables the tent to be pushed, without extraneous guidance, between the cervix and the membranes, taking of itself the readiest path presented to it. For the same reason the membranes run no risk of puncture. The tents themselves are short, rounded at the extremity, and perforated, to facilitate adaptation to the instrument.

The apparatus, and the mode of its application, are so simple, and so free from inconvenience and danger, that its use causes in practice little or no anxiety on the part of the patient; and until labor sets in, she moves about without pain or inconvenience, regardless of the presence of the tent.

PROF. W. M. LEISHMAN, M. D., GLASGOW.

The rupture of the membranes by means of a quill or in any other way, is a certain and effectual method, but open to serious objections. It compromises, very decidedly, the chances of the child, by allowing pressure upon it to the end of the labor. Again, if the os is imperfectly dilated, the membranes may be retained with a fatal result to the mother.

PROF. HAMILTON, of Edinburgh, recommends separation of the membranes by a finger or the sound passed within the os uteri. This may, however, be solely due to the forcible dilatation of the os, and which may be equally successfully done with tents. Most operators prefer, as safe and efficient, the introduction of an elastic catheter within the uterus and outside of the membranes, up a distance of six or seven inches, and allowed to remain. Sooner or later, the uterus is stimulated to contract.

An equally safe method is the use of Braun's colpeurynter, Gariel's air pressary, or other form of plug. Vaginal or uterine injections are made by directing a constant stream of warm water upon the os by means of a long tube. Some allow a free egress for the water, others endeavor to retain it so as to act in detaching the membranes. This is repeated once or twice a day, and generally brings on contraction after eight or ten applications. It is by

no means free from risk, and full egress should always be allowed for the fluid.

The intra uterine douche is effective, though doubtful as to safety.

The most recent method is that of BARNES; dilatation of the os by means of graduated fluid pressure. He makes two stages—provocative and accelerative. For the first he passes an elastic bougie six or seven inches into the uterus, coils up the remainder in the vagina, and lets it remain. Next morning there is generally some uterine action; or it may be suffered to remain. Before rupturing the membranes, adapt a binder to the abdomen tightly, so as to keep the head in close apposition to the cervix. This often prevents the cord being washed down. Dilate the cervix by the medium or large bag till it will admit three fingers; rupture the membranes, introduce the dilator, and expand till the passage is open for the child. If there is room, and there are pains, leave the rest to nature. Otherwise, use the accelerative method—the forceps or turning; or, if the passage of a living child is hopeless, craniotomy. Twenty-four hours in all from the insertion of the bougie should see the termination. The fiddle-shaped bags are used as dilators. The middle is grasped and held by the os so that they cannot slip either way. Their introduction is effected by means of the cup shaped pouch in which the sound is inserted. First, empty out the air and turn the cock; then fold the bag in itself, and pass it within the os. The nozzle of a syringe filled with water is adapted to the tube, and the fluid cautiously injected. After moderate dilatation the cock is closed and the bag left in place. Subsequent dilatation should be gradual, and is an imitation of the effect of the liquor amnii in the membranes. Larger bags may be subsequently used, or two inserted at once.

Galvanism is uncertain, and its use has been abandoned.

PROF. KARL SCHROEDER, M. D., ERLANGEN,

Thinks KRAUSE's method, the introduction of an elastic catheter, is preferable. This is explained above. Generally this suffices, and labor sets in. Should delay occur, COHEN'S method of injections between the ovum and uterus may be used. A catheter is passed well up, and tepid water injected till tension is felt. The membranes are thus detached, and uterine action is roused. But this is more inconvenient and very dangerous.

TARNIER'S method by the "intra-uterine dilator" can never supersede the simple catheter. It is inconvenient, and not applicable for general practice.

Mechanical dilatation is recommended by BRUNNINGHAUSEN, KLUGE, and BARNES. These dilators are difficult to introduce, and are of no advantage. Those of BARNES require a previous dilatation permeable by two fingers.

Plugging the vagina as by SCHOLLER, HUTER, and BRAUN: the colpeurynter is slow and uncertain, inconvenient, and causes great pain. It may be useful where there is hemorrhage, or when the pains cease, to provoke them, or where there is also required a counter-pressure against the membranes which are about to burst. This the colpeurynter is sure to prevent.

KIWISCH'S ascending douche, at 30–35° R. against the os for 10–15 minutes, is not reliable, nor free from danger, but may favor dilatation of a closed cervix, and prepare for the use of other means.

Puncture of the membranes, as by SCHEEL, HOPKINS, and MEISSNER, is followed more slowly by the desired effect. ROKITANSKY, Jr., very highly recommends it. He considers that it gives better results to mother and child than any other method. MEISSNER used a long, curved trocar, to puncture the membranes high up. This is difficult, and now abandoned.

ALFRED MEADOWS, M. D., LONDON.

Adopts in preference the following plan. He secures free evacuation of the bowels, then introduces a sea-tangle tent, the size of a No. 7 catheter. The os is thus dilated so as to admit a small sized rubber bag; in five or six hours this may be withdrawn and a larger one introduced, and so on till action is induced. Or an elastic bougie is passed into the uterus, so as not to rupture the membranes. The cervix is now generally the size of a five-shilling piece. Uterine action is set up, and goes on more or less speedily.

PROF. W. S. PLAYFAIR, M. D., LONDON.

Considers it always an advantage to allow the pains to come gradually, in imitation of natural labor; therefore, if after the bougie has been inserted, contraction come on strongly, the case may be left to nature. If feeble, resort to dilatation by means of the fluid bags, and subsequently puncture the membranes. In this

way, the labor is completely under control, and he believes this method will commend itself as the simplest and most certain mode yet known, and most closely imitating the natural process.

PROF. FLEETWOOD CHURCHILL, M. D., DUBLIN.

Abdominal frictions and manipulations with warm baths, etc., rarely succeed. This author thinks the plan of KIWISCH admirable. This is the throwing a stream of warm water upon the os by means of a long tube. It rarely fails, and may be used for ten or fifteen minutes once or twice a day. The profession is now in possession of sufficient experience to pronounce favorably of this plan; and it will probably supersede all others.

The application of belladonna to the os uteri is doubtful and dangerous.

Galvanism has been successfully employed by a number of practitioners.

CHARLES CLAY, M. D., LONDON.

This author, like many others, has no confidence in emmenagogues, as they constantly fail, even when pushed to an enormous extent. The only certain means is the destruction of the vitality of the embryo, as it then becomes a foreign body. This is best effected by the use of the male catheter; the escape of waters down the tube, with a tinge of blood, is evidence of success.

TYLER SMITH M. D., LONDON,

Regards KIWISCH's water douche superior to all methods. The stream may be of hot and cold water alternately, and by means of the patent syringe.

PROFESSOR SCANZONI, GERMANY,

Proposes to excite the womb by reflex action, by sucking and rubbing the breasts; these failing, he says SCHEEL's mode of perforating the membranes is the most sure and rarely fails, but is objectionable because of the delay and the risk to the child, etc.

He alludes to the gradual dilatation of the neck by sponge tents and tampons in the vagina as inconvenient, painful and otherwise objectionable.

He says in review, the uterine douche of KIWISCH is preferable when prompt action is not obligatory because of hemorrhage, and the membranes can readily be perforated if danger is imminent, an-

thus the volume of the womb may be rapidly diminished. The injections into the cavity of the uterus by COHEN'S method are difficult, especially in the primipara, where the neck is closed or displaced; and dangerous at least to the child because of the liability to penetrate the membranes.

PROF. S. TARNIER, PARIS,

Prefers the separation of the membranes when the internal orifice is open; dilatation of the neck when the orifice will not admit of the passage of instruments to separate the membranes. A last resource will be the excitation of reflex action.

RÉSUMÉ OF REMEDIES.

I. UTERINE SEDATIVES AND TONICS.

Arsenic has been recommended in threatened abortion from irritable uterus, by Mr. HENRY HUNT, of Dartmouth, England.

Cannabis Indica has been found useful in impending abortion from congestion or irritability of the uterus. From v–xx drops of the tincture may be given every two or four hours. Drs. CLENDENNING, REYNOLDS, LEVER and CHURCHILL praise its effects.

Ergota is constantly employed in accidental abortion. See (p. 201.)

Opium is one of the most important agents of this class. (See p. 202.)

Plumbi Acetas is a valuable adjunct to opium in uterine hemorrhage with threatened abortion.

Quinine is thought by many to act as a uterine stimulant, and to be advantageous in this accident.

Sabina is useful against the hemorrhage which indicates approaching abortion in women of bad fibre. In these cases, the dried powder of the leaves may be given, in doses of gr. xv–xx thrice daily. In habitual abortion depending upon diminished vitality of the uterine system, savin has also been advised:

235. ℞. Sabinæ, ʒij–iv
Aquæ ferventis, f.ʒvj. M.

A tablespoonful thrice daily, taken during the intervals of the menstrual period. This remedy must, however, be employed with caution.

Tannicum Acidum, in combination with opium and ipecacuanha, has been strongly advised in threatened abortion.

Terebinthinæ Oleum has been favorably reported upon by Dr. FORDYCE BARKER in the treatment of abortion; given as an enema, he found it act as an effective oxytocic, as well as hemostatic.

Viburnum Prunifolium is an extremely valuable preventive of abortion, often succeeding where other means fail. The bark of the root is the portion used, from which an extract is prepared. It has

been especially noticed by Dr. E W. JENKS. (*Gynecological Transactions*, 1876.)

Emetics. Dr. J. G. STOKES, of Illinois, (*Half-Yearly Compendium*, Vol. VIII.,) advocates the use of emetics in all cases of abortion, especially in those continued cases of threatened abortion which are so annoying to both physician and patient.

2. ECBOLIC OR ABORTIFACIENT AGENTS, OR UTERINE EXONERANTS.

Aloes. Most of the patent pills sold for the real if not avowed object of inducing abortion are composed of aloes combined with drastic cathartics; the effect of the violent peristalsis induced being to excite by sympathy uterine contractions. It is needless to add that this plan is both unscientific and dangerous.

Cantharides sometimes produces abortion through the renal and vesical excitement which it causes. As a medical means to this end, it is too dangerous.

Ergota. Probably the most efficient of known ecbolics continues to be the various species of ergot, as derived from rye, wheat, rice, or maize. It has, however, been denied that it acts as such, except in the uterus at term. The eminent Dr. PAUL DUBOIS denied that it could provoke abortion. The correct opinion seems that advocated by FONSSAGRIVES (*Thérapeutique*, 1878), that its ecbolic action is null at the commencement of pregnancy, but increases in direct proportion as the latter progresses.

Gossypium. The fresh bark of the root of the cotton plant, in decoction (℥iv of the root to water Oij, boiled to Oj), in doses of f.℥iij repeated, is a popular abortifacient in the southern States. The fluid extracts on sale are generally almost or quite inert.

Jaborandi and *Pilocarpin.* Considerable attention has been directed to these agents as ecbolics, and they have recently been carefully studied by Prof. P. MULLER, of Berne. He justly remarks that it certainly would be a great advantage if premature labor could be induced by internal remedies. All the dangers from traumatism and infection would be absent, and the objections which now exist against ergot might be found wanting in the new agent. But his experiments were not encouraging. To test the contraction-exciting power of pilocarpin, MULLER gave it to puerperal women, whose uteri are particularly susceptible to such excitants. Multiparæ with flaccid abdominal parietes and large, readily palpable uteri were chosen, and both ergotin and pilocarpin given them. The results showed that pilocarpin does not act as powerfully as ergot, for if the observations are continued through several days, after two days the pilocarpin loses its effect.

Quiniæ Sulphas. From a mass of evidence laid before the American profession, of recent years, there would seem to be no doubt but that, under some circumstances not yet ascertained, quinine provokes abortion. This would appear to be more especially the case when administered in large doses in the absence of malarial poisoning in the system.

Ruta. The rue is one of the oldest known abortives. Its specific action as such, and independent of any intestinal irritation, has been abundantly established by the recent researches of Dr. E. HAMELIN (*Dict des Sciences Med.*, 1877). Although uncertain in its action, he thinks the uterine contractions to which it gives rise are more physiological in character than those following the use of ergot. In administering it, he prefers an infusion of the fresh leaves and roots to any other form (℥ij–iv to water Oj), to be taken in two or three doses at intervals.

Sabina. The reputation of this plant as an ecbolic is probably not justified. Dr. E. HAMELIN, who has studied its properties carefully, doubts whether it excites directly any uterine action; if such follows, it is the result of transmitted irritation.

Sodii Boras. The use of boras as an ecbolic is of doubtful efficacy.

Tanacetum, often used for criminal purposes as an abortifacient, is, in the opinion of STILLÉ, incapable of producing any such result.

VOMITING AND NAUSEA OF PREGNANCY.

PROF. G. TARNIER, PARIS.

In slight vomitings, some aromatic infusion or tea will generally relieve. When they occur after a daily meal, it is useful to change the order of the repast. Thus if, as is usual, the vomiting is very copious after the evening meal, the woman should make merely a light repast, and eat more at breakfast. Cold food is least likely to be ejected. Ices, aerated waters, or small pieces of ice may be taken with the best results. The *subacetate of bismuth*, in doses of a grain or half a grain before each meal, is very beneficial; or after the meal, two or three teaspoonfuls of Kirsch. In obstinate cases, a pill, or two or three centigrams of *aqueous extract of opium*, may be given an hour before the meal, and to prevent constipation, a slight purgative occasionally. Where the vomiting is accompanied with pain and tension at the epigastrium, lotions of laudanum are useful; or a small blister, subsequently powdered with one or two centigrams of the muriate or acetate of *morphia*. DEZON has succeeded by the application of cold water to the epigastrium. *Alcohol* to a slight intoxication has proved successful; hence champagne frequently at once gives relief. BRETONNEAU has calmed the irritability in grave cases by frictions on the stomach with a concentrated solution of *belladonna*. TARNIER applied this in a very bad case in the form of the extract to the inferior segment of the uterine neck and the vaginal walls with the best results.

STACKLER has succeeded with the *black oxide of mercury*, 5 centigrams daily, without salivation. EULENBERG applied *tincture of iodine* to the os. RICORD and BACARISSE also gave 50 centigrams of *iodide of potassium* daily, and with equal success. The salts of *cerium*, particularly the oxalate, are extremely useful in doses of 5 centigrams, 3 or 4 times a day.

Obstinate constipation generally is present with the vomiting. Here he gives *scammony*, 50 centigrams, with one grain of *jalap* at bed-time. If the first is vomited, repeat it immediately, and even a third dose. Generally the second or third will be retained and act purgatively. When an examination reveals a retroversion

of the uterus, generally its replacement will at once put an end to the vomitings.

In cases likely to prove fatal, especially when the pregnancy has advanced to a point that assumes the vitality of the child, premature labor may be deemed necessary.

PROF. KARL SCHROEDER, OF ERLANGEN.

This author suggests subcutaneous injections of *morphia*. PIPPINSKOLD has cured it with enemata of broth, oil, and wine. If the child be viable, labor must be induced. It must not be forgotten that it may be due to a round ulcer of the stomach.

WM. LEISHMAN, M. D. LONDON.

Breakfasting in bed and not rising for awhile often speedily relieves the trouble. In cases where the bowels are sluggish, the granular effervescing *citrate of magnesia* is useful, or the "potion de Riviere" given so that the effervescence occurs within the stomach:

236.	℞.	Acid. citric,	gr. xxxvj	
		Syr., simp.,	f.℥i	
		Aquæ,	f.℥ij.	M.
237.	℞.	Potassii bicarb,	gr. xxxvj	
		Aquæ,	f.℥iij.	M.

A tablespoonful of each to be taken successively. When there is exhaustion, stimulants are required. Pepsin is valuable. Often simple milk, and lime-water, and barley water (especially the latter), are retained in very grave cases. Nutritive enemata may be employed to sustain the failing powers or inunctions of cod or other oils.

DR. ALBERT EULENBERG, BERLIN.

238.	℞.	Tincturæ iodinii,	♏xv	
		Alcoholis,	f.℥iij.	M.

Give three drops several times a day, in a tablespoonful of an aromatic infusion.

239.	℞.	Tincturæ iodinii,	gtt.x	
		Aquæ destillatæ,	f.℥iij	
		Syrupi aurantii corticis,	f.℥j.	M.

A teaspoonful, or even a tablespoonful.

Other approved prescriptions are:

240.	℞.	Bismuthi subnitratis,	℥iij	
		Acidi carbolici,	gr.iv	
		Mucilaginis acaciæ,	f.℥j	
		Aquæ menthæ piperitæ,	f.℥iij.	M.

A tablespoonful three or four times a day.

241. ℞. Atropiæ sulphatis, gr.ij
Aquæ destillatæ, f.℥j. M.
Two drops in water, before meals.

242. ℞. Cerii oxalatis, gr.x
Bismuthi subnitratis, gr.xxx. M.
Make ten powders. One five or six times a day.

Sometimes a rectal injection of *chloral hydrate*, gr.xxx, morning and evening, will effectually control this symptom. *Bromide of potassium*, ℈j, thrice daily; *chloroform*, gtt.ij, in mucilage, and medicated pessaries, may also be tried. Dr. E. COPEMAN, of Norwich, Eng., claims invariable success to follow dilatation of the os uteri with the finger, once often being sufficient to relieve the nausea completely. (*British Medical Journal*, May 25, 1875.) A somewhat similar plan is that suggested by Dr. M. O. JONES, of Chicago, to wit: Painting the os and cervix with tincture of iodine, or cauterizing them with solid nitrate of silver. This plan has met with great success in obstinate cases, and has been endorsed by Dr. J. MARION SIMS.

W. STUMP FORWOOD, M. D., OF DARLINGTON, MD.

This practitioner recommends the following as almost a specific in the vomiting of pregnancy (*Half Yearly Compendium*, Vol. III., p. 96):

243. ℞. Columbæ, ℥ss
Sennæ, ℥j
Zingiberis, ℥ss
Aquæ bull., ℥j. M.
A wine glass full three times a day.

HENRY F. CAMPBELL, M. D., OF AUGUSTA, GA.,

Has called attention to the importance of rectal *alimentation* in the nausea and vomiting of pregnancy, not merely as a last resort, but as an expedient for supplementing inadequate nutrition by the stomach in moderately severe cases (*Trans. Am. Gyn. Soc.*, 1878). He uses about eight ounces of beef tea, or other nutrient liquid, twice daily, injecting it very slowly and gently, so as to avoid exciting the lower bowel to expulsive efforts. To supply fluids, during the intervals of the morning and evening injections, a full goblet of water, not quite cold, was twice given some hours apart. The results in the instances reported were highly satisfactory, the nutrition being maintained, the nausea abated, and the sympathetic irritation of the stomach relieved.

RÉSUMÉ OF REMEDIES.

INTERNAL REMEDIES.

Acidum Hydrocyanicum Dilutum, gtt. v., is a valuable sedative.

Aconitum. A few drops of the tincture of aconite will relieve some cases.

Armoracia. Dr. TILT recommends a small portion of horse radish, scraped fine, and moistened with vinegar.

Arsenicum. Single-drop doses of Fowler's solution will sometimes afford astonishing relief.

Atropia has been used with advantage (F. 241) WM. BOYS, M. D., Waverly, Iowa, in the *Med. Brief*, Oct. 1879, gives the following:

244. ℞.	Atropiæ sulph.,		gr.j	
	Morph. sulph.,		gr. iv	
	Ac. sulph. arom.,		f.℥iij	
	Aquæ,		f.℥v.	M.

Dose, gtt. x–xx 3 times a day.

Belladonna, in ten minim doses of the tincture, is recommended by TILT and others.

Bismuthi Subnitras will be found at times an efficient sedative (F. 240).

Calumba, according to PHILLIPS and BARTHOLOW, will frequently allay the nausea and vomiting.

Carbolicum Acidum, in drop doses of the crystallized acid, in mucilage, thrice daily, has been recommended by English writers.

Cerii Oxalas has attained great favor. Dr. F. E. IMAGE (*Practitioner*, June, 1878,) prefers this formula:

245. ℞.	Cerii oxalatis,			
	Pulv. trag. co.,	āā	gr. x	
	Tinct. aurant.,		f.℥ss	
	Aquam,	ad	f.℥j.	M.

For one dose as required. It is often given in too small a dose; gr. x is required.

The *nitrate of cerium* has also been used.

Chloral Hydras, in simple nervous erethisms of the stomach, often acts promptly; gr.xxx in mucilage for a rectal injection is the best form of administration.

Chloroformum may be given in doses of a few drops in a spoonful of milk. Sir C. LOCOCK recommended repeated chloroformization almost to insensibility.

Creasotum should, according to Dr. RINGER, be given in very small doses, for instance, added to water just so that the latter tastes of it, and then a dessertspoonful of the fluid taken from time to time.

Cupri Sulphas, gr.iv to aquæ f.℥j. Six drops at a dose will sometimes relieve. (BARTHOLOW.)

Ether. A few drops at a time in water, or inhaled, will at times relieve the nausea. The spine has also been sprayed with the ether spray with most excellent results, by Dr. DUBELSKI, of Warsaw.

Hydrargyrum Chloridum Mite. Dr. TILT occasionally administers gr.x–xv of calomel for its sedative action; or combines it in smaller quantities with opium.

Hyoscyamus. Dr. PITOIS, Professor at the Medical school at Rennes, reports two striking cases of relief by hyoscyamia. After trying, unsuccessfully, all the usual means, he administered a teaspoonful every hour of a mixture containing five milligrammes of hyoscyamia in 125 grammes of fluid. The next day the vomiting ceased.

Ingluvin. This substance, used to facilitate digestion, has been favorably reported upon.

Iodinium, in drop doses of the tincture every hour or two, will, according to BARTHOLOW, sometimes greatly relieve this symptom.

Ipecacuanha. Dr. C. FULLER (*Lancet,* Dec. 4, 1869,) introduced the treatment of vomiting of pregnancy by single drop doses of wine of ipecac. in a teaspoonful of water every hour. Others have also reported favorable results from this plan.

Lactopeptin. This peptic compound has in a number of instances relieved the nausea and vomiting.

Magnesia in small quantities occasionally affords relief.

Nux Vomica, in tincture, gtt.v–x, as required, is relied upon by PLAYFAIR and others. BARTHOLOW says it is best adapted to cases with much nausea and little vomiting, in doses of half a drop to a drop.

Opium and Morphia are, according to TILT, the first remedies to be tried. He recommends suppositories containing gr. ij–iij of extract of opium, or gr.j morphiæ acetatis; or the drug may be given by the mouth. Inquiry, however, must be made as to the idiosyncrasy, as it is well known that any form of opium produces vomiting in some persons. Dr. ATTHILL combines morphia with atropia for a hypodermic injection:

246. ℞. Morphiæ acetatis, gr.viij
Atropiæ liquoris (B. Ph.), ♏xlviij
Glycerinæ, ♏v
Aquam, ad f.℥iv. M.

Dose.—Five to ten drops for a hypodermic injection.

Pepsina, either as wine or in other forms, will often succeed.

Potassii Bromidum. Dr. S. C. BUSEY, Washington, D. C. (*Amer. Jour. Med. Sci.,* January, 1878), has obtained decided and immediate relief from the bromide of potassium. He gives 30 grains to a drachm, dissolved in beef-tea, to which brandy and laudanum may be added, according to the condition of the patient. He gives it in enemata every four hours.

Potassii Iodidum is occasionally of service.

Salicin has been occasionally found to be of service.

Strychnia. Dr. TILT strongly recommends:

247.	℞.	Strychniæ,	gr. ¼	
		Tinct. zingiberis,	f.℥vj	
		Aquæ,	f.℥iv.	M.

Dose —A teaspoonful every one or two hours.

Tannicum Acidum, in the form of a pill, gr i–ij, morning and evening, has been found very successful by Dr. DIBOUE (*Arch. de Tocologie*, Sept, 1877).

Stimulants. Recourse must be had to these cautiously, on account of the relief they sometimes give leading to the habit of tippling. When accessible, the best is probably dry champagne, iced, of which tablespoonful doses may be given every 15 minutes.

LOCAL MEASURES.

Caustics. Dr. J. MARION SIMS believes that the treatment should always be directed to the seat of the irritation, and claims the best results from the use of caustic to the os; two or three applications generally suffice. This method he employs even when there is no sign of erosion of the mucous lining of the os, and the parts appear perfectly healthy. Dr. F. D. LENTE (*Med. Record*, 1879), agrees with Dr. SIMS, and freely touches the os and cervix with the nitrate of silver. He quotes Dr. M. O. JONES, Chicago, as using this method with the best possible result, and where, in the majority of cases, the os presented no signs of disease. Dr. PLAYFAIR considers the measure hazardous.

Cold, applied to the epigastrium, or by swallowing pieces of ice, is often beneficial.

Electricity. Dr T. GAILLARD THOMAS, of New York, employs electricity. He fixes one broad flat electrode, made by stitching a flat sponge to sheet rubber, by means of adhesive plaster on the epigastrium, and a similar one under the spine, the patient lying supine. Then a gentle current is passed, and continued steadily for 10, 12, or even 24 hours. He has seen no evil result, and esteems this remedy higher than any other.

Dr. DA VENEZIA relates in the *Giornale Veneto di Scienze Med.* (January, 1879), a case of chronic nervous vomiting in pregnancy which was cured by electricity. The patient was a young woman aged 24, in the seventh month of her first pregnancy. She had been suffering for the last two years from frequent attacks of vomiting after food, which had been so frequent during the last month, that she had become greatly reduced in strength. The usual therapeutic agents were then emp'oyed; but, as no relief was obtained through them, the author resolved to try electricity. A faradic current of moderate strength was used, one of the rheophores being applied to the side of the neck along the course of the vagus nerve, and the other to the epigastrium. After the first sitting the patient was better, and after the fourth the vomiting ceased.

Heat. TANNER mentions hot fomentations to the epigastrium and hot poultices, as occasionally useful.

Injections, either rectal or vaginal, are efficient means. Those containing opium are most useful. In the Boston *Medical and Surgical Journal*, 1879, Dr. GREENE, of Dorchester, advocated the use of warm vaginal lavements for many cases of obstinate vomiting of pregnancy. He also reports a case where warm olive oil succeeded after the water had failed.

Leeches to the os have been used by CLAY, but their propriety has been doubted by PLAYFAIR. Dr. TILT mentions that in some cases the vomiting has been promptly checked, after the failure of ordinary measures, by the application of a few leeches to the pit of the stomach, although there were no signs of inflammation there, and the patient was not plethoric.

Suppositories, both rectal and vaginal, containing opium or its alkaloids, are among the earliest resources indicated. As a medicated pessary, Dr. TANNER prescribes:

248. ℞. Extracti belladonnæ, gr.xxv
Extracti hyoscyami, gr.lxxx
Plumbi iodidi, ʒj
Theobromæ cocoæ, ʒi
Olei olivæ, f.ʒij. M.

For eight pessaries. One to be introduced into the vagina every night.

The author has in many extremely obstinate cases obtained the most prompt benefit from the employment of suppositories of belladonna and hyoscyamus.

SYMPATHETIC NERVOUS DISORDERS.

These are palpitation of the heart, headache, syncope, cough, neuralgia, pruritus, hypochondriasis.

PROF. W. S. PLAYFAIR, M. D. LONDON,

For the *palpitation*, would give ferruginous preparations, and a general tonic regimen. When it does not seem to result from debility, anti-spasmodics are indicated.

Syncope occurs generally in women of a highly-developed nervous temperament, and generally about the time of quickening. The treatment should consist in the use of diffusible stimulants, as ether, ammonia, and valerian, the patient being recumbent with the head low. In the intervals, tonics and iron are necessary.

Neuralgia is generally controlled by tolerably large doses of quinine. If caries of the teeth is present, the affected tooth should be removed without fear. Nitrous oxide gas may be administered without difficulty or risk.

ELY VAN DE WARKER, M. D., OF NEW YORK.

This writer extols the black cohosh, *cimicifuga racemosa*, for the nervous disorders of pregnancy (*Half Yearly Compendium*, Vol. XIII., p. 176). He says:

"Women are oftentimes the subjects of distressing symptoms as pregnancy advances. Among these are a train of nervous symptoms: Restlessness, sleeplessness, darting pains in the back, flanks and thighs, and stiffness and soreness in movement, are very common and troublesome. For these conditions I find *black cohosh, cimicifuga racemosa*, a sovereign remedy. I give thirty minims, or half a teaspoonful, of the fluid extract at bed time, in cases of restlessness; and in cases of neuralgia of the lumbar or abdominal muscles, or in cases of stiffness or soreness in movement, the extract may be given in the same amount, at intervals of three to five hours during the day.

THOMAS H. TANNER, M. D., LONDON.

The headaches of pregnancy are usually due either to debility or to sympathy. The first is dull and steady, the skin cool, and

the pulse feeble. Its successful management demands quinine and iron, good diet, exercise, and general hygiene. The sympathetic headache is generally limited to a small space, or a single spot. The pain is acute and penetrating. The treatment is a moderate purgative followed by tonics. The extract of *aconite*, gr.½, every four or six hours, sometimes gives prompt relief in such cases.

In puerperal cases, *insomnia* is not unfrequently the precursor of delirium or mania. It demands, therefore, careful attention, and, if persistent, the cautious use of hypnotics.

Groundless despondency, *hypochondriasis*, is not very unusual during the period of gestation. The bowels should be acted on with rhubarb and soda, pepsin taken after the meals, and a tonic, such as the following, be prescribed:

249. ℞. Spiritus ammoniæ aromat., f.℥iij
Spiritus chloroformi, f.℥ij
Ferri et quiniæ citratis, gr.xxx
Liquoris strychniæ, ♏xxx
Tincturæ zingiberis, f.℥ij
Aquam, ad f.℥viij. M.
A sixth part two or three times a day.

Sometimes the union of the tonic with an alterative is desirable, as:

250. ℞. Ammonii muriatis, gr.lx
Extracti cinchonæ liquoris, ♏xc
Vini rhei, f.℥vj
Aquam menth. piper., ad f.℥viij. M.
A sixth part twice daily.

The moral management of such cases is also important. Positive assurances of the future must be given; the demeanor must be humane and sympathizing; and she must be guarded from scenes and tales of suffering.

Pregnant women toward the eighth month are sometimes subject to sudden attacks of intensely acute *pain in the right side*. The treatment should be to make the patient lie on her left side, cover the region of the pain with hot fomentations containing belladonna and opium, and administer a full dose of an anodyne and carminative mixture. As long as any pain remains, she should keep her bed, and lie on the left side.

The sympathetic *nervous cough* of pregnancy comes on in violent paroxysms, especially at night, without expectoration or steth-

oscopic signs. In its treatment, he has found antispasmodic mixtures like the following to give great relief:

251.	℞.	Spiritus etheris,		f.℥iij
		Tinct. chloroformi comp,		f.℥j
		Acidi hydrocyanici diluti,		♏ xv
		Liquoris morphiæ sulphatis,		f.℥i
		Tinct. cardamomi comp,		f.℥vj
		Aquam,	ad	f.℥viij.

A sixth part every 6 or 8 hours.

Or,

252.	℞.	Tinct. valerianæ ammon.,		♏xxx	
		Tinct. sumbulis,		♏xx	
		Tinct. belladonnæ,		♏x	
		Tinct. camph. comp.,		♏xxx	
		Aquam camphoræ,	ad	f.℥xij	M.

For one dose.

Efforts must be continued to check the cough when violent, as its continuance sometimes leads to abortion.

TYLER SMITH, M. D., LONDON,

Regards *pruritus* as the result of follicular irritation of the vulva. The secretion from the surface is generally very acid, which may be relieved by washing with common yellow soap. Dilute hydrocyanic acid, Battley's solution, of each f.℥ij, and carbonate of soda, ℥ij, water f.℥vj, make an excellent wash, using only a tablespoonful at a time. A lotion of borax is good; sometimes an acidulated lotion is preferable, or a lotion of tar water. In obstinate cases, paint the vulva with nitrate of silver, 10 grains to water one ounce every day, or every other day; or with tincture of iodine with an equal part of water. Where the os uteri is thus troubled, inject the lotion of borax or nitrate of silver. Tepid or cold bathing, cooling diet, and aperients, are also aids in the cure. Should it assume a periodic form, quinine is the remedy.

PROF. W. S. PLAYFAIR, M. D., LONDON.

Pruritus is frequently associated with leucorrhea of an acrid nature; or there may be aphthous patches on the mucous membrane, ascarides in the rectum, or pediculi in the hairs of the mons and labia. Sedative lotions are useful, as Goulard's, or an ounce of the solution of muriate of morphia with a drachm and a half of hydrocyanic acid in six ounces of water; or chloroform, one part to

six of almond oil. A pledget of cotton-wool soaked in equal parts of glycerine of borax and sulphurous acid, may be placed in the vagina at bed-time, and removed in the morning. In obstinate cases, the solid nitrate of silver may be brushed lightly over the vulva. Generally the aperient mineral waters and bromide of potassium aid in the cure.

PROF. S. TARNIER, PARIS,

Gives this formula:

253.	℞.	Deutochloride of mercury,	2 grams
		Alcohol,	10 "
		Rose water,	40 "
		Distilled water,	450 "

He employs this night and morning thus: Bathe the parts with warm water to remove any discharges, then, having carefully dried the surface, rapidly sponge the seat of the affection with the lotion. In a few minutes, wash again with fresh water. The cure is generally rapid.

[For further suggestions regarding the Pruritus of Pregnancy, see Part I., Chap. III., under Pruritus of the Vulva.

DIGESTIVE DERANGEMENTS OF PREGNANCY.

GINGIVITIS, PUERPERAL SALIVATION.

Dr. A. PINARD of the *Clinique d' Accouchement*, of Paris (*L' Abeille Méd. Jan.*, 1878), remarks that in many cases of pregnancy, the gums are the seat of more or less morbid phenomena. They are redder and more congested than normally; they are swollen; the edge of the free border, especially the inter-dental membrane, covers a part of each tooth. The slightest pressure exerted on this edge, causes a slight hemorrhage. At a more advanced degree, the teeth lose their solidity. The mastication, at first injured, becomes more painful and more difficult as the lesions are more pronounced.

For the relief of this condition, he has used:

254. ℞. Chloral hydratis,
Tinct. cochleariæ off., āā partes equales.
Apply daily, or every other day, to the diseased edge of the gums, with a mop.

This dressing is slightly painful, and the cauterization very light. The eschar disappears generally twenty-four or thirty-six hours after the application. In thirty women attacked with gingivitis, who were subjected to this treatment, twenty-five were cured in less than fifteen days. In two of them the cure was slower, complications having supervened which necessitated the use of mercurial ointment. In five others the treatment could not be continued.

Dr. THOMAS H. TANNER remarks that some writers say the salivation should not be checked; but he distrusts this view. He has found small blisters behind the ears or to the neck more efficient than any other remedy. Local remedies are seldom of use; one of the best is

255. ℞. Sodii boracis glycerini, f.℥ij
Aquæ rosæ, f.℥vj. M.
For a gargle. To be used twice daily.

Belladonna is the only internal remedy he has seen diminish the discharge, but this often fails. Chlorate of potassa may be tried.

DIARRHŒA

Occasionally is present, and PLAYFAIR regards it as due to errors of diet. It should not be neglected, as it may bring on labor prematurely. The chalk mixture, with aromatic confections and small doses of chlorodyne and laudanum, will generally check it.

LEISHMAN counsels the removal of any fecal accumulations by castor oil and then the use of astringents.

CONSTIPATION.

LEISHMAN regards this as due to the pressure of the womb on the bowel, reducing its calibre and paralyzing its muscular fibres. In other cases, a want of bile occasions it. If clay-colored stools show this, a few grains of blue pill will do good.

PLAYFAIR suggests appropriate diet, as fresh fruits, brown bread, oatmeal, etc. The aperient mineral waters answer well, and an occasional dose of confection of sulphur; or a pill of three grains of extract of colocynth, quarter of a grain of extract of nux vomica, and a grain of extract of hyoscyamus at bed-time; or a teaspoonful of compound liquorice powder at bedtime. This condition is effectually combated by giving, twice a day, a pill of two grains of inspissated ox-gall with a fourth of a grain of extract of belladonna. Enemata of soap and water are good. Scybalæ must be broken up and removed by mechanical means.

Dr. W. CRAIG, Edinburgh (Edinburgh *Med. Jour.*, June, 1875), has found the following an excellent pill for the constipation so common in females of a sedentary habit:

256.	℞.	Aloin.,	gr.ss
		Ferri sulph. exsic.,	gr.iss
		Extract. nucis vomicæ,	gr.ss
		Extract. belladonnæ,	gr.ss.
	Fiat pil.	One or two pills daily.	

Another writer gives:

257.	℞.	Ext. colocynth comp.,	gr.xij	
		Pulv. rhei,	gr.vj	
		Ext. belladonnæ,	gr.iss	
		" hyoscyami,	gr.iij.	M.

Divide into six pills. One at bed-time. $\frac{1}{20}$ grain of strychnia may be added to each pill.

HEMORRHOIDS.

LEISHMAN says the treatment must be purely palliative. Sponging with water; fomenting with sponges wrung out of hot water,

and applied as hot as they can be borne; applications of ung. gallæ cum opio; and cold injections for hemorrhage.

CAZEAUX gives every night a cold enema; when this is evacuated, a second of about one-fourth the quantity, this to be retained.

PLAYFAIR likes the sulphur electuary. When tender and swollen, he covers the tumors with an ointment of four grains of muriate of morphia to an ounce of simple ointment.

R. P. HARRIS, M. D., adds to the ung. gallæ cum opio ℥j—ext. of stramonium ʒj. The tumors should always be returned carefully within the sphincter, and punctured if necessary to lessen the congestion, prior to the attempt at reduction.

TARNIER relieves the constipation, then uses cataplasms and lotions, emollient and narcotic. When internal, introduce suppositories within the rectum. Opium and belladonna are most useful.

During pregnancy and the puerperal period, hemorrhoids often occur. For them Dr. BARKER recommends the following formula:

258.	℞.	Pulv. aloës soc.		
		Sapo cast.,	āā ʒj	
		Ext. hyoscyami,	ʒss	
		Pulv. ipecac.,	gr.v	M.

Divide in pills No. xx. Sig.—One morning and evening.

When the hemorrhoids are associated with an irritable rectum, and with frequent small, teasing, thin evacutions, he substitutes for the hyoscyamus a small quantity of opium, giving also a less quantity of aloes, as in the following formula:

259.	℞.	Ferri sulph.,	ʒj	
		Pulv. aloes,	gr.x	
		Ext. opii aq.,	gr.x	
		Sapo cast.,	gr.x.	M.

Ft pil. No. xx. Sig.- One morning and evening.

Locally he applies the following ointment to the tumors and well up in the rectum twice daily:

260.	R.	Ung gallae co.,	℥j
		Ext. opii aq.,	ʒj
		Sol. ferri subsulphatis.,	f.ʒj M. Ft. ung.

ALBUMINURIA OF PREGNANCY.

PROF. WM. LEISHMAN, M. D., GLASGOW,

Says antiphlogistics must only be used with the greatest caution. Baths are useful by promoting the function of the skin. Diuretics are of doubtful value.

Dr. J. S. PARRY, the Philadelphia editor, urges the following:

261.	℞.	Tr. ferri chlo.,	f.℥iij	
		Liq. ammon acet.,	f.℥iij	
		Ac. acetic,	♏xv	
		Ol. gaultheriæ,	gtt.v	
		Syr. aurant. cort.,	f.℥j.	M.

Dose.—One to two drachms three times a day.

It is of great importance to recognize the presence of albumen early. Such symptoms as edema, even of the minor form, should always prompt the physician to test the urine for albumen. It may, indeed, exist, and apparently in no way affect the general health. When this is the case, active medication is needless. It will be enough to regulate carefully the diet, and maintain in normal action the secretory functions. Cases which are wholly due to the pressure of the enlarged uterus and its contents, often continue to the close of the pregnancy and pass through confinement without any untoward accident. The avoidance of interference therefore, and a watchful supervision of the case, embrace all that the physician is called upon to do. It must be borne in mind that the disease is one of debility, and implies impoverishment of the blood, so that lowering treatment is usually out of place, and tonics and a generous diet are rather called for. Occasionally some of the mildest diuretics may be exhibited, but, as above mentioned, their general use is of questionable propriety.

PROF. W. S. PLAYFAIR, M. D., LONDON,

Saline diuretics, as acetate or bitartrate of potassa, and watery purgatives, as the compound jalap powder, are most useful in promoting the urinary secretion and relieving the renal congestion. Dry cupping over the loins, frequently repeated, and the vapor or Turkish bath, will aid greatly. The diet should be mainly of milk

and white of egg, and a little white-fish. The tincture of perchloride of iron, with the tincture of digitalis, acts well. The induction of labor must depend upon the gravity of the symptoms.

TYLER SMITH, M. D., LONDON,

Believes in small bleedings where there is distinct lumbar pain and general febrile excitement, or cups to the loins, or sinapisms. Warm and vapor baths, aided by diuretics, as acetate of potassa, oil of juniper, infusion of broom, will tend to remove the effusion, and cause the kidneys to act. Then tonics, iron, and good diet. Where the phosphatic diathesis exists, we require the mineral acids, opium, and rest.

PROF. S. TARNIER, PARIS,*

At the Maternité, has for some years treated albuminuria entirely by milk, and with most excellent results. One litre (1¾ pints) of milk, increased to three and four litres a day, are given, and the albuminuria rapidly diminishes or disappears. The effect is shown in a week or a fortnight.

PROF. MONTROSE A. PALLEN, M. D., NEW YORK,

Regards as the correct treatment the relief of the hyperemia of the kidney by sponging the surface with hot water and alcohol and by keeping the pores open with vaseline inunctions; to this may be added the hot air or Turkish bath; milk is given as the most digestible food; kumyss was added because of the very slight amount of, and easily digested alcohol in it. The patient is to be kept in bed, to maintain the skin at a uniform temperature; massage stimulates the circulation, and equalizes the blood current; cathartic water is the best aperient. If eclampsia is threatened, have recourse to chloroform, and bleeding.

PROF. EDW. S. DUNSTER, M. D., ANN ARBOR, MICH.

In treating of the *prophylaxis of puerperal* convulsions, this author suggests in albuminuria, the relief of the congestion of the kidneys by causing the skin to act; he gives bitartrate of potassa, compound jalap powder, citrate of magnesia, and sulphate of magnesia acidulated with sulphuric acid, and the natural mineral

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waters. He promotes diaphoresis by the vapor and hot air bath, or the Turkish bath if accessible. Vichy and Seltzer waters are well borne. Cupping, wet or dry, over the kidney, particularly when there is pain over it, and the urine is scanty, or smoky. A hard bounding pulse, severe pains in the head, flushed and hot skin may be met by venesection, though in many instances saline laxatives, freely used, will overcome these symptoms.

Counteract the impoverished state of the blood resulting from the loss of albumen by good nutritious food, fresh air, an appropriate mode of life and tonics. Generally white meats and fish are well borne. Milk is excellent as a diet. The tincture of the chloride of iron is the best tonic. It should be given largely diluted, and not to the extent of blackening the feces.

Quiet the nervous and digestive disturbances by complete regulation of the habits and mode of life, and an out-of-door life short of fatigue; constant and cheerful occupation for both mind and body. Avoid opiates, but give nervous sedatives or soporifics that are non-constipating, as chloral in severe cases. The bromide of potassium and the monobromide of camphor are useful. They ameliorate the condition, and give considerable immunity against convulsions at the time of labor. For the loss of appetite and constipation, pepsin, bismuth, and nux vomica, are serviceable.

Induce premature labor when all else fails.

DR. A. S. COE, OF NEW YORK.

According to this practitioner (*Am. Jour. Obstetrics*, Oct., 1878) when albumen makes its appearance early in pregnancy, there are three important indications to be met: (1) to eliminate the poison as far as possible; (2) to support the patient; (3) to allay the nervous tension, and guard against exciting causes. In the first, acetate or some of the other salts of potassa, with digitalis, acts favorably upon the kidneys, and diminishes the quantity of albumen in the urine. Much of the poison can be eliminated by the action of saline cathartics upon the bowels. The second is best met by a liberal diet, tonics, and iron. To meet the third, absolute rest and quiet are necessary, with the use of opium and bromide of potassium, if an outbreak of convulsions or other paroxysms is threatened. When there is much cerebral disturbance, the application of ice to the back of the head and upper part of the spine answers an excellent purpose.

Convulsions are usually preceded by a rapid accumulation of uric poison in the blood and a scanty secretion of urine, and often the patient is attacked with only a slight premonition of coming disaster. In the treatment of these cases, he has found that sulph. morphia, injected hypodermically, answers the best purpose. He never was able to get satisfactory results from bleeding or the use of chloroform.

PROF. J. B. FONSSAGRIVES, M. D., PARIS.

This author considers it doubtful whether any direct means are available to combat the superabundance of albumen in the serum; but indirectly much can be done by regimen and diet. One of the most important points is to keep the bowels soluble by laxatives; constipation in such cases must be sedulously avoided by means of alkaline purgative waters, in doses sufficient to act moderately and no more.

Whether the diet recommended in Bright's disease should also be adopted in the albuminuria of pregnancy, remains an open question. Often by attention to the bowels and general regimen, no such means need be resorted to.

PROF. CARL R. BRAUN, M. D., VIENNA.

Hydremia, at an early stage of pregnancy, is ameliorated by nutritious diet, vegetable tonics, and iron, tepid baths, and especially vapor baths. To neutralize the carbonate of ammonia in the blood, make use of benzoic acid, lemon juice, or tartaric acid. To obviate congestion of the head, prevent constipation by vinegar injections, aloes, jalap, etc. When exudation has taken place into the Malpighian capsules, and the tubuli of Bellini and Ferrein, the cylindrical clots must be removed from them, and new ones prevented. If the current of fluid from the bodies into the capsules be strong, then the copious use of diluents will suffice to wash away the clots. But if the urine be scanty and uremia threaten, then the force of the current must be increased by acids, as above, and Seltzer and Vichy waters. Pills of *tannin* and extract of *aloes* are useful to restore the normal tone.

Premature delivery is not to be thought of, unless uremia has appeared, and the life is threatened. But it will be rational to resort to this procedure if from the duration of the disease, its severity, the quantity of cylindrical clots, the great hydremia, the

dropsy, and disturbances of the heart, lungs, brain, etc., cause fear of the existence of great degeneration of the kidneys. Should symptoms indicate the death of the fœtus, operative interference may at once be employed, as its retention greatly adds to the danger to the mother.

RÉSUMÉ OF REMEDIES.

Benzoicum Acidum, gr.v, twice daily, in pill form, has given satisfactory results in uremic attacks during pregnancy.

Chloral has been tried with marked success in a few cases by Dr. E. NOEGGERATH, of New York. (*Amer. Jour. of Obstetrics*, Oct., 1878). He gave gr. xx–xxx every night, with the result that the albumen immediately began to diminish, and soon disappeared entirely.

Digitalis. The duretic powers of this drug are frequently available. It can often be advantageously used as a poultice as recommended, by Dr. P. C. RUSSEL (*Brit. Med. Jour.*, December, 1878).

Ferrum. The use of ferruginous preparations combined with diuretics is always indicated.

Jaborandi and Pilocarpin must be used cautiously in these cases, as they have ecbolic properties which may lead to abortion.

Oleum Juniperi was preferred by SIMPSON as a diuretic, but has not been approved by others.

Oleum Tiglii is occasionally called for in severe cases, to act on the bowels and kidneys.

Potassii Acetas and *Bitartras* usually secure an abundant renal secretion.

Potassii Bromidum is valuable to relieve headache and control nervous excitement.

Milk Diet. A diet of skimmed milk is probably the only remedy now known which has a radical influence on albuminuria.

On the general treatment of Albuminuria, see the section on Eclampsia, and also NAPHEYS' *Medical Therapeutics*, Chap. V.

CHAPTER II.

COMPLICATIONS, DISORDERS, AND SEQUELÆ OF PARTURITION.

Anæsthetics in Labor—Tedious Labor (Rigid Os, Uterine Atony, etc.)—After Pains—Puerperal Hemorrhage—Puerperal Eclampsia—Puerperal Mania—Puerperal Septicemia—Thrombosis and Embolism—Shock—Pelvic Cellulitis and Peritonitis (Puerperal Phlebitis and Metritis)—Phlegmasia Dolens—Milk Fever—Puerperal Convalescence.

ANÆSTHETICS IN LABOR.

PROF. FORDYCE BARKER, M. D., NEW YORK.

Anæsthetics are of great value in preventing lacerations of the perineum. In that form of rigidity caused by excessive irritability of the muscular fibres, the perineum relaxes and dilates with remarkable rapidity after the inhalation of chloroform. Where danger arises from violent uterine contractions, profound anæsthesia will save the perineum. Even in tedious labors, chloroform causes relaxation and a restoration of the normal moisture and temperature of the parts, and efficient action of the uterus is at once resumed.

PROF. KARL SCHROEDER, ERLANGEN.

Chloroform in labor has the same advantage as in surgical operations. It facilitates all midwifery operations. In parturition, it easily acts in a small quantity, and it is not necessary to producec omplete anæsthesia merely to mitigate pain. A few whiffs relieve the acute pain, and this cannot injure mother or child. Even profound anæsthesia has not been found to influence the child when continued for a short time.

It does not induce hemorrhage, and reduces the temperature, both favorable effects.

It cannot be questioned that chloroform is advisable in normal

parturition to suppress the intense sufferings. Chloral has an equally beneficial effect.

PROF. S. W. PLAYFAIR, M. D., LONDON.

Anæsthesia is a perfectly legitimate means of assuaging the sufferings of child-birth. Chloral may be safely given when chloroform cannot. It does not relax contractions, while it produces a drowsy state, in which the pains are not so acutely felt. Hence, in the first stage, during the dilatation of the cervix, it is most useful; especially in those cases where the pains are intolerably acute, with but little effect on the labor, 15 grains may be given every twenty minutes, for three doses; the patient becomes drowsy, dozes, and wakes up as each contraction commences. Rarely is a fourth dose required. It does not interfere with the use of chloroform, but of that less will be required. It is a very valuable aid in the management of labor.

Chloroform should only be given during the pains, and never to unconsciousness. Watch its effects: if the pains lessen in force and frequency, stop its inhalation, beginning again when the pains are stronger. It is believed that the addition of about one-third absolute alcohol will increase the stimulating effects and diminish its tendency to cause undue relaxation. As the head distends the perineum, it may be used more freely, and even to complete insensibility just before the child is born.

Ether acts well, and does not relax the uterus, and even seems to intensify the pains.

Bear in mind the tendency of chloroform to produce uterine relaxation, and hence take extra precautions against post-partum hemorrhage.

In operative midwifery, complete anæsthesia is required, and here the operator should employ the aid of another physician, and his undivided attention should be given to the anæsthetic, while the operator is otherwise engaged.

Dr. ROBT. P. HARRIS, American editor of Playfair, says that in the United States chloroform is rarely used in midwifery, but preferably pure sulphuric ether. After anæsthesia, uterine inertia is very apt to follow, and result in post-partum hemorrhage.

DR. FRACHAUD

Read a paper before the Section of Obstetrics and Gynecology of

the International Medical Congress, on the 11th of September, 1878, on anæsthetics. The following are his conclusions:

(1) The employment of anæsthetics is to be advised, as a general rule, in natural labor.

(2) The principal agents employed at present, are ether, chloroform, amylene, laudanum, morphine by subcutaneous injection, and chloral by the mouth and by enema.

(3) Chloroform is the one he considered preferable.

(4) It should be administered according to the method of Snow, that is, in small doses at the commencement of each pain; and it should be suspended as soon as the pain has passed.

(5) It should never be pushed to complete insensibility, but a diminution of pain only should be aimed at.

(6) It is generally advised to administer chloroform only during the period of expulsion; but in some cases of extreme nervousness and agitation, it is better not to await the complete dilatation of the os.

(7) Experiment has shown that anæsthetics do not stop either the uterine contractions or those of the abdominal muscles, but that they lessen the resistance of the perineal muscles.

(8) The employment of anæsthetics has no injurious effect on the health of mother or child.

(9) In lessening to a greater or less degree the sufferings of the woman, anæsthetics are of great service to those women who dread the pain; it lessens the probability of their having nervous attacks, and hastens their convalescence.

(10) Anæsthetics are extremely useful to calm the extreme agitation and control excitement which labor often causes in very nervous women.

(11) Their employment is indicated in cases of natural labor, which is suspended or retarded by the sufferings caused by previous disease, or that coming on during the labor, and in cases where irregular and partial contractions occasion great suffering without advancing the labor.

(12) Chloroform should not be employed in natural labor without the consent of the woman and her friends.

M. Courty spoke in high terms of M. Frachaud's paper, and stated that he agreed with him in every particular.

PROF. F. CHURCHILL, M. D., DUBLIN.

In most obstetric operations, anæsthesia is of value to relax the soft parts and moderate uterine action, etc.

The dose should be administered at each pain, and increased when the head is passing the perineum. The anæsthetic state may be kept up for hours without mischief. The best mode is by a clean white handkerchief, folded funnel shape, into which a drachm and a half of chloroform is poured; this is placed over the mouth and nose, and it is a good plan to let the patient hold it herself, as thus deep anæsthesia is prevented.

C. J. CAMPBELL, M. D., PARIS,

Has for years employed chloroform in labor with good results.

The administration of chloroform in intermittent doses, during the second stage of labor, is of undoubted value. Had it no other but a moral effect on the patient, even then it would be most valuable, inasmuch as it abolishes the dread of coming pain, and enables her to enter labor with confidence and tranquillity. But chloroform, without diminishing the force of the uterine contraction, relaxes the parturient canal, abolishes the sensation of the straining pains which during this period are most violent and agonizing, and economizes the mother's strength by sparing her the exhaustion consequent upon the extreme tension of the nervous system. With regard to *post-partum* hemorrhage, the danger is infinitesimal, if the chloroform be withdrawn at the conclusion of the second stage.

M. LUCAS CHAMPIONNIERE, PARIS,

Says (*Le Progrès Méd.*, Apr. 6,) that he uses chloroform in almost every case, but not to complete anæsthesia. Its action varies, requiring a larger amount and longer time in some than in others. Early in labor a quite small quantity gives great relief, and yet the labor goes on rapidly. Later, it requires a greatly increased dose, and the anæsthesia must be more profound, and must be maintained. When the waters are evacuated and the uterus firmly contracted on the child, the resistance is greatly increased, and more trouble is experienced in obtaining the good results. Here the chloroform may be pushed until sleep is induced. This author finds that it never retards labor, generally accelerates it, does not cause stupor in the child, and the woman has a better convales-

cence in every way. He has seen no contra-indications to its use in any case.

PROF. WM. T. LUSK, M. D., NEW YORK,

In a paper "On the Necessity of Caution in the Use of Chloroform During Labor," states the following propositions:

I. Deep anæsthesia, carried to the point of complete abolition of consciousness, in some cases weakens uterine action, and sometimes suspends it altogether.

II. Chloroform, even when given in the usual obstetrical fashion, namely, in small doses, during the pains only, and after the commencement of the second stage, may, in exceptional cases, so far weaken uterine action as to create the necessity for resorting to ergot or forceps.

III. Patients in labor do not enjoy any absolute immunity from the pernicious effects of chloroform.

IV. Chloroform should not be given in the third stage of labor. The relative safety of chloroform in parturition ceases with the birth of the child.

V. The more remote influence of large doses of chloroform during labor upon the puerperal state, is a subject that calls for further investigation and inquiry.

With these five propositions he is prepared to close his indictment against chloroform in midwifery. It is not a formidable one, and need not deter from its cautious employment. But the sense of possible danger which governed its use in the hands of those to whom we owe its introduction into practice, has been replaced by an overweening confidence.

PROF. R. BARTHOLOW, M. D., PHILADELPHIA,

Says when labor is of short duration, and not excessively painful, anæsthetics are not to be used. But when the labor is protracted and suffering great, they favor progress, and prevent exhaustion and uterine inertia. Caution is required with primipara. Inhalation should not begin till the close of the first stage, unless there are "nagging pains," and only during a pain. The effect must be watched, and the inhalation stopped if the pulse fails, the respiration becomes short, and the pains lose efficiency. Complete unconsciousness is not necessary.

In instrumental delivery, anæsthesia is important; it facilitates

the operation, and prevents shock. It must be carried so far as to ensure quietude of the patient, but not complete muscular resolution. In *turning*, chloroform narcosis must be deep enough to suspend uterine contraction.

RÉSUMÉ OF REMEDIES.

Alcohol. In default of other anæsthetics, a full dose of whiskey or other spirits is a popular obtunder of pain. By some obstetricians a mixture is used containing alcohol, as that proposed by the Medico-Chirurgical Society of London.

262. ℞. Alcoholis, 1 part
Chloroformi, 2 "
Etheris sulph., 3 " M.

Chloral has been suggested, but its absorption is slow and its results uncertain. Injecting it into the veins, after the method of Dr. ORE, of Bordeaux, is said to be dangerous. PLAYFAIR prefers chloral to chloroform; he gives gr.xv at a dose, and repeats in twenty minutes, if necessary.

Chloroform. SIMPSON recommends chloroform to be used in labor, by laying a single fold of a handkerchief over the nose and mouth, and dropping the anæsthetic upon it, a single drop at a time. In this way it becomes thoroughly mixed with air, and is entirely safe. Drs. J. RINGER, PLAYFAIR, and others, believe that chloroform weakens uterine contraction. According to a recent writer in *La Presse Médicale*, chloroform acts more vigorously and persistently upon the retractility than upon the contractility of the womb. To secure this action, prolonged inhalations, rather than complete anæsthesia, are desiderated. The contraction of the abdominal muscles is more diminished by the chloroform than uterine contraction is. But whilst both these effects of this anæsthetic are in proportion to the intensity of the anæsthesia, they disappear rapidly, indeed, almost instantaneously, on the cessation of the inhalation, whilst the diminution of uterine retractility continues longer.

Ether. Pure, well-washed, sulphuric eother, is claimed by many to combine more in its favor as an anæsthetic in labor than any other agent. But as Dr. R. P. HARRIS points out (notes to PLAYFAIR'S *Midwifery*), only in exceptional cases does it act satisfactorily. In many it induces intoxication and excitement, and diminishes or stops the expulsive efforts, and leads to uterine inertia and consequent post partum hemorrhage. Its administration should be preceded by a small dose of brandy, to prevent gastric disturbance.

Morphia. The hypodermic injection of morphia has been found to arrest uterine contraction, and is therefore not adapted to labor.

Nitrous Oxide, a safe and agreeable anæsthetic, produces an influence of too short duration to be conveniently employed in obstetrics.

TEDIOUS LABOR.

RIGID OS AND ATONY OF UTERUS.

ALBERT H. SMITH, M. D., PHILADELPHIA,

In a paper read before the Philadelphia County Medical Society, (*Medical and Surgical Reporter*, Aug. 11th and 18th, 1877), says the causes of delay may be divided into classes: Rigidity of the os or absence of the dilatory force, or real and apparent rigidity. Spasmodic contraction of the os is a neurosis, and for its relief we require such means as quiet nervous excitement, allay sensibility, diminish the activity of the circulation, and control the local congestions. First of these is opium. Acts promptly, without danger, and never contra-indicated. A suppository of one-half a grain to a grain of watery extract, or its equivalent in morphia, powdered opium, or an enema of laudanum, or the hypodermic; or in case of much fever, morphia with digitalis and diaphoretics, will be certain of good results.

Ether or chloroform may give the same, but are not so safe, and diminish the force of the contractions, and may cause inertia uteri and hemorrhage.

Passive rigidity, that is, a want of distensibility, must be met by the douche of hot water, 105° to 110°, injecting a quart at a time by the syringe against the os and cervix, and repeating every hour or two. Traction by the finger upon the anterior lip is here of great value, though not when there is spasm. When the membranes are not ruptured, care should be taken not to do this. The india-rubber bags are valuable dilators—that of BRAUN, of Vienna, or better, the fiddle-shaped bags of BARNES; they should be filled with warm water until fully expanded. After dilatation has given room, apply the forceps within the lips, and thus we gain an additional dilating power. There can be no more risk to the tissues than by the passage of the head without them. During each contraction the forceps may be gently drawn upon.

Incision is justifiable only under extremely rare conditions.

In delay from absence of the dilating wedge, which is the most common cause of delay, this is often the result of inertia, and may be met by abdominal frictions, diffusible stimulants, ginger, balm,

mint, or other hot teas, hot and cold douche, etc. The best of all is the bisulphate of quinia—say 15 grains in one dose.

When the preternatural distension of the amniotic sac stretches too greatly the uterine fibres, its rupture will generally speedily correct the evil. Irregular contractions are best met by the quiet and rest of opium, anæsthetics, chloral, etc.

Premature labor would also cause delay, and require opium or chloral for relief.

In cases of disproportion of the head and pelvis, the one abnormally large, or the other small, the only remedy is to carry the forceps within the os, and the accomplishment of the delivery as above detailed.

W. H. LONG, M. D., LOUISVILLE, KY.,

Speaks of *viscum album* or *mistletoe* as an oxytocic. He has used it for ten years. It acts with more certainty and promptness than ergot, and does not cause continuous or chronic contractions. The fluid extract is preferable, in doses of a drachm, repeated every twenty minutes until the desired effect is induced. The infusion is made by taking 2 oz. of the dried, or 4 oz. of the green leaves, pouring over them one pint of boiling water, covering until cool enough to drink. Dose, two to four ounces, repeated in twenty minutes, if necessary. He has seen excellent results follow its use in post-partum hemorrhage and in menorrhagia.

J. H. BENNETT, M. D., WAUSEON, OHIO,

Proposes (Detroit *Lancet*) to facilitate and shorten labor by giving a hypodermic of morphia, gr. ¼. When rest has restored the nervous energy, he places the patient on her back, the thighs flexed, the shoulders bolstered up, the smaller or lumbar portion of the spine down, so as to form a curve, the convexity of which is down; thus the axes of the two straits form a continuous curve. Labor commencing, the os is gently pulled forward by the index finger, causing dilatation, at the same time pressing the fundus gently upwards and back so as to bring the child in proper relation with the lower strait. During the passage of the head into the lower strait, he continually draws forward the anterior lip of the os, at the same time pressing the anterior portion of the os back under the os pubis, with other soft tissues that protrude with the anterior portion of the os and neck, which narrows the antero-pos-

terior diameter. As the os dilates under the forward and lateral pressure, during the interval of pain, the anterior lip of the os passes back under the arch of the pubis, and finally over the occiput; thus increasing the antero-posterior diameter and facilitating very much the passage of the head, also saving the contusion of the urethra, which so frequently occurs.

After this stage he protects the urethra and tissues adjacent, by pressing upon the occiput forwards and downwards with the digital and middle fingers, each side of the urethra, until it passes from under the os pubis; thus avoiding the necessity of being called to use the catheter, also preventing one of the causes of vesico-vaginal fistula, and lessening the danger of laceration of the perineum by the occiput rising in front of the os pubis, sooner than it would if the anterior portion of os with folds of the vagina and other soft parts protruded in front of the head. In this way the pressure on the perineum is lessened.

During the above management, if the patient is weak and the pains feeble, to induce instinctive action of the uterus and abdominal muscles, pass the middle and index fingers of the right hand (the palmar surface down) back with gentle pressure downwards against the perineum and vulva, producing the sensation of advance of the head.

HENRY L. HORTON, M. D., NEW YORK,

(*Am. Jour. Obst.*, July, 1878,) states that *atropine* injected into the tissues of the cervix uteri will lessen the pain and shorten the duration of the first stage of labor, by overcoming the spastic rigidity of that structure. He uses about one-fortieth or fiftieth part of a grain of atropia sulphate for each injection. He has had manufactured a hypodermic syringe, long needle with a hook-curve at the end. "After hooking the anterior lip of the cervix with the index finger of the right hand and drawing it slightly forward, he carries the needle along the palmar surface, keeping the point pressed quite firmly against it, so as to avoid wounding the maternal parts. After carrying its points well within the cervix, he raises it from the finger, and by a slight traction, buries it somewhat deeply into the muscular structure of that portion of the uterus. After discharging its contents, he retains it in that position a few moments, in order that the absorption of the atropine may be certain to [illegible]"

PROF. W. S. PLAYFAIR, M. D., LONDON.

Where there is feeble or irregular action, a loaded rectum is often the cause, and a large enema will generally produce a remarkable effect.

Excessive distension of the uterus is relieved by rupture of the membranes. Adherent membranes may be separated by sweeping the finger or a flexible catheter round within the os. Uterine deviations must be corrected by placing the patient on the opposite side to that towards which the organ points, or when anterior, place her on her back and apply a bandage to prevent the organ falling forward. Temporary exhaustion requires rest, as by an opiate, as 20 minims of Battley's solution or an enema of the same. When pains are irregular, spasmodic and painful, chloral is of great value.

Oxytocics or remedies to increase the force of the pains, are borax, cinnamon, quinine, galvanism, and ergot. The latter has serious disadvantages to both mother and child. It is only allowable when the os is fully dilated.

Manual pressure often produces the most speedy effect. The best way is to place the patient on her back at the edge of the bed, and spread the palms of the hands on each side of the fundus and body of the uterus, and when a pain begins, make firm pressure down and back in the direction of the outlet; relax the pressure when the pain goes off, and resume when a new pain comes. The patient need not lie on her back; pressure may be made in the ordinary obstetric position on the left side, the left hand spread over the fundus, leaving the right free to note the progress per vaginam. This plan is completely at the will of the operator, and can be nicely regulated; it imitates nature, and is without risk to child or mother. The pressure must be firm, but not rough. The use of the *forceps* is now becoming the rule in place of the exception, to put an end to protracted labor. It diminishes in a marked degree infant mortality. There is no danger to the mother, but often great danger from a delay in their use.

PROF. WM. LEISHMAN, M. D., GLASGOW.

In rigid os, anæsthetics are required. Chloroform is preferred, but chloral is more marked in its effects. When the os seems occluded, mechanical means to dilate must be employed, as sponge-tents, and the like. Inertia of the uterus may be caused

by rheumatism, neuralgia, etc. A distended bladder or rectum may act mechanically, and in such cases there is generally cramp of the lower limbs, and this agony weakens the action of the womb. The means of relief here is patent and immediately efficient.

Ergot, to increase the activity of the pains, is never perfectly safe, and the forceps should, when possible, be preferred.

ALFRED MEADOWS, M. D., LONDON.

Tartar emetic will be found of the greatest service in small and frequently-repeated doses, so as to cause nausea, when the rigidity readily yields. Sometimes it appears to act better when combined with opium, or is facilitated by saline purgatives, as where there is gastric derangement, with foul tongue, offensive breath, constipation, etc.

Opium alone is of the utmost value. Chloroform is another valuable remedy. Bleeding, in plethoric subjects, requires a full stream, to the amount of twelve or sixteen ounces. A vaginal pessary—one part gelatin, four of glycerine, made with two or more grains of extract of belladonna, soon melts and is absorbed, and may aid the dilatation. In certain cases all these fail, and we require the artificial dilator, the india-rubber bag. Where rigidity is obstinate, and there is fear of uterine rupture, or exhaustion of the patient, the cervix should be incised, not too deeply, say from a quarter to half an inch in several directions.

ARTHUR WIGLESWORTH, M. D., LIVERPOOL.

This writer (*Obstetric Journal Great Britain and Ireland*, Sept., 1877), advances these propositions: An os more or less dilated, but rigid with active contractions, is rigidity from spasm; this may arise from direct or indirect causes, but with the same results; this condition may be removed by the administration of *morphia*, with the object of relaxing the circular fibres without inducing either nausea or exhaustion. The dose must be regulated according to physical condition of the patient, the amount of rigidity, the condition of the stomach. A nervous, excitable temperament requires a smaller dose than a phlegmatic one, also if there is much exhaustion. A thick rigid os, with a phlegmatic system, requires a larger dose, or a repetition. If the stomach is loaded, a larger dose is required.

Where rigidity has been long existent, and there is exhaustion without relaxation, and a subsidence of uterine action, ergot and morphia should be combined.

WM. STEPHENSON, M. D., LONDON,

In the *Obstetric Journal Great Britain and Ireland*, Aug., 1878, directs the introduction of one or more fingers of the right hand within the os, opposite the thyroid foramina in first and second positions, and the sacro-iliac junction in the third and fourth, and thus to lift or support the head during each pain. His design is to effect the extrusion of the occiput through the os, securing greater flexion and aiding rotation. It is employed after rupture of the membranes, before complete dilation, and when the cervix does not yield and recede over the head.

RÉSUMÉ OF REMEDIES.

Alcohol counteracts the tendency of anæsthetics to weaken uterine action, and acts as a general stimulant to the muscular forces in labor (Dr. D. MORTON, *Amer. Practitioner*, Dec., 1874).

Antimonii et Potassæ Tartras, in tedious labor from rigid os, in doses of gr. $\frac{1}{20}$—$\frac{1}{12}$ every fifteen minutes, is an ancient and often efficient method of overcoming spasmodic muscular contraction.

Amyl Nitrate. When the uterus is spasmodically contracted on the fœtus, Dr. MAURY, of New York, believes that this agent is a most valuable remedy.

Atropia is given by Dr. HORTON, as above (see p. 241), in cases where the uterus has become completely or partially spasmodically contracted on the fetus, or on a separated placenta, in order to overcome the spasm. Dr. FRANKEL, of Breslau, recommends a hypodermic of one-thirty-third of a grain of atropia, and one-quarter of a grain of morphia, with inhalation of chloroform five minutes later. The uterus relaxes speedily and yieldingly. There need be no fear of post-partum hemorrhage.

Belladonna, in the form of ointment of the extract, is an agent of old renown.

Carbonis Sulphidum. MILNE EDWARDS and VARASEAU assert that a few drops sprinkled on the abdomen of a woman in labor, will reawaken uterine contraction.

Caulophyllum Thalictroides. At a meeting of the Obstetric Section of the New York Academy of Medicine, Dr. SELL related a case as an example of several, in which he used the concentrated tincture of caulophyllum, blue cohosh or squaw-weed, with the happiest results, as a remedy to ward off tedious labor. The remedy was especially applicable in those cases in which the woman had habitually suffered severely during the first stage of

labor. As a preparatory remedy in such cases, it should be administered in twenty-drop doses three times a day, for three or four weeks previous to confinement

Cannabis Indica. Dr. ALEX. CHRISTISON claims that *cannabis indica* equals ergot, but being quicker, more energetic, but of shorter duration.

Chloral acts at times indirectly as an accelerator of parturition. Dr. WM. L. RICHARDSON remarks (*Trans. Am Gyn. Soc*, Vol. I) that it seems especially adapted to that large class of cases in which the pains occur at very short intervals, last but a moment, and are very severe. Little progress is made, and the patient suffers intensely, and becomes restless and nervous. In such cases the administration of chloral is followed by the happiest results. The dose may be gr.x–xx, repeated if called for. Dr. T. A. REAMY, of Cincinnati, says that close observation has convinced him that no bad effects on the child follow the administration of this drug (*Obstetric Gazette*, Nov., 1878).

Chloroform, administered for its anæsthetic properties, will often do away with spasmodic rigidity of the os.

Cimicifuga Racemosa is alleged by the eclectics to exert some ecbolic powers. *Cimicifugin* is extolled as of great value as a substitute for ergot, acting speedily and energetically. The contractions, unlike ergot, are not powerful and continuous, and hence there is less danger to the child. After labor, it allays nervous excitement and relieves the after pains, and checks hemorrhage. (PHILLIPS.)

Cinnamomum has some slight power as a uterine stimulant.

Ergota. The accelerator of uterine contraction is *par excellence* the ergot of the cereals; that of rye is usually employed. The propriety and rules of its use have been much and variously debated. Points generally agreed upon are that it should not be given if there is rigidity of the os, nor until the os is dilated or dilatable. The contractions it causes are continuous and violent; hence it is suited to the third stage only.

Gelsemium is a valuable remedy in cases of rigid os during labor, gtt.v of the fluid extract every ten minutes until there is nausea.

Ipecacuanha. In cases of irregular uterine action, and protracted, agonizing, yet insufficient pains, this drug exercises the happiest powers, relieving the pain and hastening the termination of the labor. The dose may be gr.ij every fifteen minutes; it takes effect in about thirty minutes. A very favorite form with some practitioners is "Dover's powder" in repeated small doses, combined either with ergot or chloral, as occasion demands.

Lobelia Inflata is asserted by SCUDDER and other eclectics to be a specific in rigid os. It probably acts from its nauseating properties. They prescribe:

263. ℞. Tinct. lobeliæ, f.℥j
Aquæ, f.℥iv. M.
A teaspoonful every fifteen minutes.

Oleum Ricini in small doses, for some time before labor commences, is said to facilitate it.

Opium and its alkaloids are of advantage to control the nervous restlessness and exhaustion which supervene in tedious labor, and to lessen the spastic rigidity of the os. Small quantities, gr. $\frac{1}{8}$, of morphia, in camphor water, may be given hourly or half-hourly. Of its employment during labor Dr. LUSK says that from a number of observations, there is no reason to apprehend any *direct* effect on the child from morphia hypodermically administered to the mother during labor. The propriety of its use, therefore, is to be determined by purely obstetric considerations. When given to meet some urgent need in the mother, it probably conduces indirectly to the welfare of the child.

Quinia. That sulphate of quinine has a direct power to promote normal labor, cannot longer be disputed. Dr. ALBERT H. SMITH, after a careful study of the subject, said some years ago (*Obstet. Jour.*, June, 1875,) that it "increases the activity of the normal uterine contractions; the pains becoming more frequent and more intense, the expulsive power being greater, while the yielding of the circular fibres of the os is more prompt; the contractions maintaining their proper intermittent character, the relaxation and rest in the interval being complete; showing in this respect an entirely different action from the continuous spasmodic contraction caused by ergot. . . . It promotes permanent tonic contraction of the uterus after the expulsion of the placenta. . . . It diminishes the lochial discharge to a normal standard. . . . Its use is followed by less after-pains than usual, in a majority of cases. . . . Given during parturition, it never disturbs the brain or causes its usual unpleasant effects, even in patients who at other times are very susceptible to its influence." The dose is gr.xv, repeated if necessary. Others give gr.viij–x.

Sodii Boras has a doubtful claim to being an oxytocic.

Ustilago Maidis, the ergot of maize, has been recently introduced. It is not dissimilar from other ergots.

Viscum Album, the mistletoe, has alleged parturifacient properties. (See p. 240).

EXTERNAL MEASURES.

Abdominal Friction is an excellent agent for expediting labor. Much force should not be used. The object is by gentle friction and pressure to excite uniform and effective uterine contractions.

Dilatation of the os by the finger has been strongly recommended by Dr. JAMES BRAITHWAITE, where the rigid os gives rise to symptoms of exhaustion. In the method he employs, the right index finger is introduced within the os uteri, with its palmar surface toward the sacrum; the left index finger is then passed, with its palmar surface toward the pubes, the left hand crossing over the right for this purpose. By gentle pressure in opposite directions the os is readily made to dilate; the fingers being hooked

within the os, the pressure is also made downward, thus very closely resembling the natural process. As soon as the os is dilated to the size of a five-shilling piece, two fingers of each hand can be introduced for manipulating.

Electricity has been employed as a uterine stimulant, but it has proved inconvenient in practice, not easily manageable, and not very effective.

Incision of the os, as a surgical measure, may be resorted to in obstinate, and especially in cicatricial rigidity.

Injections of warm water into the vagina, in properly chosen cases, will accelerate the labor without causing any increase of suffering to the mother. The only instrument required, besides a bowl of warm water, is a syringe fitted with a vaginal tube; but this apparatus can be improved by the addition of a yard of india-rubber tubing, three-eighths of an inch in diameter, joined to the vaginal tube so as to carry off the water direct from the vagina into a receptacle, thus avoiding wetting the bed. The water should be as warm as the patient can comfortably bear, and in practice it is advisable not to begin with water raised to the full temperature, but gradually to add boiling water until the temperature of about 105° F. has been attained. The injection requires to be continued from five to twenty minutes, according to circumstances.

Hip-Baths, as hot as the patient can comfortably bear, will often expedite labor, and relieve the patient in the most satisfactory manner.

Venesection, in cases of obstinate spasmodic contractions, is hardly ever necessary, now that the means above enumerated are within our reach.

AFTER-PAINS.

ALFRED MEADOWS, M. D., LONDON.

This author believes after-pains to be healthful in a certain sense; but if excessive, he would give henbane and camphor, lettuce and chlorodyne, morphia, which is better than opium, and the liquid extract of the British Pharmacopœia is the best of the opiates. The regular application of the child to the breast suffices to expel clots from the uterus.

PROF. W. S. PLAYFAIR, M. D., LONDON,

Advises an opiate, or if the lochia be scanty, a linseed-meal poultice sprinkled with laudanum, or the chloroform and belladonna liniment. Quinine in ten-grain doses is excellent, especially when the pains are neuralgic in character.

PROF. TYLER SMITH, M. D., LONDON,

Counsels the removal of any coagula that may be in the uterus. When the pains are neuralgic, an opiate, and a warm linseed-meal poultice, with laudanum sprinkled on it, applied to the abdomen, afford great relief. An anodyne embrocation applied to the breasts is of service.

BERNARD KELLY, M. D., OF LONDON,

Has found (*Medical Press and Circular*, Feb. 20, 1878,) small doses of opium, frequently repeated, combined with an alkali or acid, as indicated, to answer an excellent purpose. It is much safer than giving a single large dose, which has a tendency to suddenly paralyze nervous action, and subsequently lead to passive enlargement and congestion of the uterus. This objection derives additional force from the occasional presence (often unsuspected by the young accoucheur) of albumen in the urine, and the consequent danger of uremic convulsions; when, if a large dose of the narcotic be blindly administered, fatal effects will almost inevitably follow. Here there is no remedy to compare in safety and value with the old-fashioned *tincture of iron*, which may be given, properly diluted, in large doses and *ad libitum*. When pains, unattended by uterine action, follow labor, ergot may be advantageously

prescribed. But to exhibit it in cases where the viscus is already, so to speak, madly in action, would be simply applying spurs to the willing horse.

RÉSUMÉ OF REMEDIES.

Actæa Alba. The white cohosh in tincture or infusion is alleged by the eclectic practitioners to be a specific in after-pains.

Camphora, in the form of camphor water, or pills, gr.ij, of the powder, may be used with advantage.

Chloral, in moderate doses, will usually be found efficient.

Hyoscyamus is well spoken of by Dr. MEADOWS.

Lupulina, from its specific sedative effect on the generative system, has been suggested.

Opium and its alkaloids are extensively given, but may profitably be supplanted by other anodynes.

Potassii Bromidum is a safe, and usually an efficient, sedative.

Quiniæ Sulphas, in doses of gr.x, repeated if required, has a great deal of testimony in its favor.

Hot Water Injections. Dr. ALBERT H. SMITH, of Philadelphia, has found that hot water injections, 110°–120° Fah., will always relieve, and often arrest, the most severe forms of after-pains (*Med. Times,* Aug., 1879).

PUERPERAL HEMORRHAGE.

Hemorrhage may occur either before labor or after it. Ante-partum hemorrhage may be due to the existence of placenta prævia, which generally is manifested by the bleeding occurring about the seventh month; or to the accidental detachment of the placenta, or the rupture of a large vessel of the mouth or neck of the uterus, or in the vagina. This latter may be expected where the presence of varicose veins is observed about the abdomen, thighs, etc. We have reason to believe that the same condition may exist within the labia and vagina. When hemorrhage occurs, until the os is sufficiently dilated to permit of delivery and a speedy termination of the labor, plugging the vagina is the only resource. This may be accomplished by the use of cotton, wool, etc., saturated in a styptic glycerine, or by the colpeurynter, which fully closes every avenue for the escape of the blood, and acts efficiently as a dilator of the os. This should never be filled with air, for should its walls give way above, the air would be forcibly driven into the uterine veins, and death would be inevitable.

PROF. W. S. PLAYFAIR, M. D., LONDON,

Gives the treatment by puncture of the membranes as the most efficacious; plugging the vagina, or, better, the cervix itself; turning, of course, when dilatation admits of it, as after the previous plan; separation of the placenta, especially when the child is dead, when it is not yet viable, when the hemorrhage is great and dilatation is not sufficient for turning, when the pelvic passages are too small for safe and easy turning, when the mother is too exhausted to bear turning, when the evacuation of the waters fails, or when the uterus is too firmly contracted for turning.

This operation is performed by passing one or two fingers as far through the os as they will go; feeling the placenta, pass the finger between it and the uterus, sweep it around so as to separate the placenta as far as can be reached; if the membranes can be reached and have not been already opened, tear them. Generally the hemorrhage soon ceases.

He recapitulates: Before viability, temporize, by absolute rest in bed, cold, astringent pessaries, etc. After the seventh month,

terminate the pregnancy. In all cases, rupture the membranes. If the bleeding ceases, leave the case to nature; if not, turn if it can be done, or plug carefully, and endeavor, by compression and ergot, to bring on labor. Do not leave the plug in but a few hours. If necessary, use BARNES' bag to dilate; this also acts as a plug. Separate the placenta from its attachment to the cervix.

Of course, all these methods would apply for any form of ante-partum hemorrhage. The great hemostatic is uterine contraction.

PROF. F. WINCKEL, M. D., ROSTOCK, GERMANY.

When from absence of contractions, give ergot, 3 grams, every fifteen minutes; cold injections into the vagina; compression with the hand is preferable to all other measures. If prostration is the cause, claret, 1 to 2 teaspoonfuls every five to ten minutes. If all else fails, styptics must be applied to the inner surface of the uterus, as ice, in small pieces the size of a walnut; or introduce liq. ferri sesqui-chlorid. by means of a cylindrical wad of cotton-wool soaked in it; or inject equal parts of iron and water with BRAUN'S syringe.

When stricture and irregular contraction are present, and the patient complains of severe after-pains, anti-spasmodics are best, as, pulv. ipec. comp., laudanum, an emetic, or a sinapism over the sacrum after the clots have been removed from the uterus. Enemata with 20 drops of laudanum, an emulsion of bitter almonds with 20 drops of extract of hyoscyamus, are of great service.

When the uterus is firmly contracted and the genitals and vagina are not the seat of hemorrhage, it must arise from the cervix, and local styptics are required, as cold injections, made of cotton-wool soaked in solution of chloride of iron, passed into the cervix, and plugging the vagina with balls of cotton-wool rather than the colpeurynter. MANGET squeezed the juice of half a lemon into the cervix with complete success.

A. D. L. NAPIER, M. B., LONDON,

(*Obst. J. G. B. and I.*, Feb., 1877,) observes that we should have no fear of using *iron injections*, as the os is patulous, and the return of the fluid is certain. Absorption is not active, hence we need not fear pyemia. Brandy, beef-tea, and ergot are foremost as internal treatments. Ergot is greatly increased in its specific action by the addition of strychnia.

H. OTIS HYATT, M. D., KINGSTON, N. C.,

(*Obstet. Jour. Grt. Brit. and Ireland*, Sept., 1877,) proposes the use of the *condom*, or, better, the toy balloon tied over the end of a Davidson syringe nozzle, and passed within the flaccid womb, and then distended by warm or cold water, thus pressing directly upon the mouths of the bleeding vessels. He has successfully employed it in a number of cases. He regards it as effectual in one or two minutes; and harmless, as if it should burst it would only wash out the womb.

A. V. MACAN, A. B., LONDON,

(*Obst. J. G. B. and I.*, July, 1876,) injects ether subcutaneously, say half a drachm, at once, and with the most remarkable results.

LOMBE ATTHILL, M. D.,

Has had equally good results, using a drachm of ether.

DR. M'CLINTOCK, OF LONDON,

Regards this as a valuable acquisition to our resources, and one which has great advantages over transfusion.

DR. BAILLY, OF PARIS,

In secondary post-partum hemorrhage, (*Archives de Tocologie*, Nov., 1877,) has used the *hot bath* with great success. One had hemorrhage eighteen days after delivery. The uterus could be felt two fingers' breadths above the pubes. Spite of injections of iron and the use of ergot, the loss continued obstinately for ten days. After the first hot bath, the loss was much diminished; after the second, it was suspended. It recurred in thirty-six hours, but a third bath arrested it, and involution was rapidly completed. A similar case set in twenty-seven days after delivery. It was continuous and profuse. A hot bath of twenty minutes' duration entirely stopped the hemorrhage. He attributes the benefit to the relief of uterine congestion, consequent upon the dilatation of cutaneous capillaries, the resulting determination of blood to the surface, and diminished vascularity of deep-seated organs. The baths are of a temperature of 34° Centigrade, and the immersion from twenty to thirty minutes.

DR. KOEHLER, OF GERMANY,

This writer (*All. Med. Central-Zeitung*, No. 1, 1879,) states that he has, for the last seven years, in cases of uterine hemorrhage, applied *warm fomentations* to the head, to prevent anemia of the brain, and also to the heart. Hot sand-bags are also very efficient, and the patients often will bear sand which is so hot that it can scarcely be touched with the hand. As soon as the fomentation or bag has been applied, consciousness is restored; the pulse grows stronger; the patient herself states that she feels better, that the ringing in the ears has ceased, and that she likes the appliance. As soon as it becomes cooler, she wishes it to be renewed. Dr. KOEHLER has, he says, saved patients even in the most dangerous cases of hemorrhage, by this proceeding, by which the physician never loses time, as the fomentations may be watched and renewed by any one.

JAMES BRISBANE, M. D., OF LONDON,

Uses per-chloride of iron by the "ready method;" it acts like a charm. Nothing more is required than to carry a two ounce bottle of ordinary tincture of the chloride of iron. A piece of sponge is compressed in the palm of the hand, and the iron poured on it, and thus conveyed up to the bleeding surface of the uterus, there pressed and left. The blood coagulates, the womb contracts, and the danger is over. At the next visit, the sponge is found in the vagina, and no bad results follow. It is better than injections, no time is lost, and the objections of thrombosis, injecting air, etc., are obviated.

PROF. KARL SCHROEDER, ERLANGEN.

This author counsels the tampon or colpeurynter, etc.; as soon as the dilatation will allow it, a finger should be passed to one side when the placenta is lateral, and an effort made to turn by one foot. When the placenta is central, one cotyledon is to be separated from the side of the os, and then the foot sought for. One foot is to be brought down, and so on until the delivery is complete. It is, however, advisable to continue with the tampon until the head is firmly pressed against the bleeding surface, or until dilatation will allow of turning. It is always best for mother and child to turn as soon as practicable, and only to omit doing so when the head stops the bleeding. The forceps may be used if necessary.

If the child is dead, the placenta may be separated entirely, and delivered before the child.

Hemorrhage may also arise from the vessels of the cord, and the child is in great danger. Here the rupture of the membranes should be delayed as long as possible, and the rubber-bag used until dilatation will allow of immediate extraction.

ALFRED MEADOWS, M. D., LONDON.

Accidental hemorrhage is known by the blood being almost entirely liquor sanguinis. In placenta prævia, the vagina is filled with coagula. The treatment will be recumbent position, cool drinks, astringents, as the acetate of lead, two grains given in one-half a drachm of dilute acetic acid, to prevent its decomposition in the stomach, every four or six hours; or gallic acid; or sulphuric acid, as in the infus. rosæ comp., or both combined, which is far more powerful than singly; opiates in large doses. If these fail, plug the vagina. Avoid this if possible, when the time is not full, as it is liable to bring on labor. The plug must be firm and the vagina completely filled. Its effects will be enhanced if, at the same time, a firm bandage is placed over the abdomen. The vagina must be full, but not distended.

When the discharge is very great, with pain and pregnancy at full time, expedite delivery.

In placenta prævia, act according to the necessities of the case; plug and wait for dilatation, then turn and deliver. If there is not dilatation, and the loss is great, puncture the membranes, and secure dilatation with the rubber dilators, and deliver speedily. The separation of the placenta seems to be most safe.

When due to retention of the placenta, introduce the hand and peel it off with the utmost carefulness. In doing this, keep the other hand on the fundus uteri, so as to steady the womb. Next guard against the evil effects of decomposition by syringing with antiseptics. When due to atony of the uterus, use ergot, cold, pressure and galvanism. These failing, introduce the hand to excite the womb to contract.

When the womb relaxes after once contracting, support the patient with brandy; grasp the womb firmly, and by pressure cause it to expel its contents, or turn them out with the other hand. Irritate it by manipulation within and without. Ice may be introduced within the organ, or a cold douche thrown on the abdomen.

Electricity rarely fails to induce permanent contraction. Place one pole over the fundus and the other on the perineum.

All failing, inject solution of perchloride of iron into the uterus, first clearing out all coagula. Remember the danger of this injection, and only use it as a last resort.

PROF. WM. LEISHMAN, M. D., GLASGOW,

Epitomizes thus: The evacuation of the waters is best in partial placenta prævia, and where the membranes can be reached, and where the fœtus is immature.

Ergot and oxytocics may be given, but it must be remembered that these and the above render turning more difficult.

Plugging is called for, and may be applied in the vagina or in the os uteri; it is a temporary expedient, and in turning is essential as a preliminary.

Extraction of the placenta is not to be done unless the circumstances are very exceptional, as when turning is impossible, and separation has failed.

Separation of the placenta is more justifiable, but the operation of turning is that in which the majority place the greatest confidence.

PROF. FORDYCE BARKER, M. D., NEW YORK.

This author recommends the production of contraction by pressure by the hand; the removal of any blood clots that may remain in the uterus; ice in the vagina; injection into the uterus of half an ounce of the solution of the sub-sulphate of iron, diluted with an equal measure of water; and internally administer thirty drops of the fluid extract of ergot with twenty drops of the tincture of nux vomica every half hour, until well assured that the uterus is well contracted. If the patient has suffered a severe shock from loss of blood, twenty drops of laudanum and alcoholic stimulants should be given, and repeated at short intervals until reaction is restored, and then give the ergot and nux vomica.

If there be a portion of the placenta retained, the ergot and nux vomica should be administered as a precautionary measure.

If the hemorrhage results from a uterine polypus, Dr. BARKER recommends its removal with the vulsella forceps. If from laceration of the vagina or vulva, involving varicose veins or arteries, he recommends ligation or such local measures as are demanded in hemorrhages.

T. G. THOMAS, M. D., NEW YORK

Urges (*American Practitioner*, May, 1877,) the induction of premature labor in placenta prævia. It is the only method by which the danger can be avoided. It is a rational and perfectly warrantable means, and has no danger to be compared with that of non-interference. It removes the hazards incident to delay, and relieves the great anxiety of patients, friends and physicians.

GEO. T. HARRISON, M. D., NEW YORK,

Gives the resources thus (*Am. Jour. Obstet.*, No 36, p. 576): They are enumerated in the order they are to be employed—(1) Friction, kneading and compression of the uterus. (2) Hypodermic injection of ergot above the symphysis pubis. (3) Injection of hot water at a temperature of at least 100° F. into the uterine cavity. (4) The injection of Churchill's or U. S. tincture of iodine into the uterus.

Ergot, thus hypodermically used, he says, unfolds its peculiar power over the muscular tissue with a degree of promptness and certainty of which those who know of the action of the drug only through the other modes of administration can have no idea.

He refers to intra-uterine injections of ergot in the following manner: Remove coagula; then, with a Davidson syringe, wash out all blood with cold water, and quickly inject into the cavity f℥ss Squibb's fluid extract of ergot, with water f℥iv. The effect has invariably been to bring on promptly strong, permanent tonic contraction of the muscular fibres of the uterus.

Dr. STRUDWICK has tried it in six cases of hemorrhage, and says it surpasses Monsel's styptic.

He has never been disappointed in ergot thus applied, and confidently recommends its use to those who have never tried it. Its superiority over the iron treatment must be obvious to any intelligent practitioner, since the latter application is often followed by serious consequences, and is never used without grave apprehensions of serious results, whereas the ergot is perfectly harmless and unirritating.

Some critic may say, the result obtained should be ascribed to removal of coagula and cold injections, etc.; but such is not the case, since after trying all those measures repeatedly—with ergot by mouth and rectum—each time only bringing on slight trans-

ient contraction, until ergot was tried, with the *unfailing success which always attends its use when thus applied.*

PROF. W. S. PLAYFAIR, M. D., LONDON.

Urges preventive treatment in all cases. The hand should be kept upon the womb until the placenta is expelled, and continuous contraction kept up for at least half an hour after delivery, by grasping the contracted womb with the palm of the hand and preventing its relaxation. It is also good practice to give a full dose of ergot after the placenta has been delivered. When the previous history causes an expectation of hemorrhage, the ergot should be given, and preferably hypodermically, about 10 to 20 minutes before the labor is expected to be concluded. Then any means should be taken to insure contraction of the organ, and it is advisable to rupture the membranes early, as soon as the os is dilated or dilatable, to insure stronger uterine action. Care should be had in all cases where the pulse is high some ten or fifteen minutes after the birth of the child, as hemorrhage often follows. Hence, never leave a patient until the pulse falls to the normal. After speaking of pressure, he alludes to another plan: pass the fingers of the right hand high up in the posterior cul-de-sac of the vagina, so as to reach the posterior surface of the uterus, while counter-pressure is exercised by the left hand through the abdomen. The anterior and posterior walls are thus closely pressed together.

Brandy must not be relied upon. In bad cases it merely fills the stomach, and may be thrown up unaltered. It may bring on intoxication, which is mistaken for coma of syncope, etc.

A drachm of *ether* may be injected hypodermically in great exhaustion. Give fresh air, keep the head low down, so that syncope cannot occur. Empty the uterus of clots or other foreign bodies.

Intra-uterine injections of warm water, 110° to 120°, are highly recommended. This succeeds after all the usual remedies fail, especially where the uterus contracts and relaxes.

A distended bladder will often prevent contraction. Evacuate it with the catheter.

Never plug the vagina.

Compression of the abdominal aorta is a temporary expedient, and

supplements other means, as also when there is great exhaustion, the firm bandaging of the extremities with the elastic bandage to retain the blood in the trunk, and lessen the likelihood to syncope.

In the last extremity, inject the strong liquor of *chloride of iron*, diluted with six times its bulk of water, being very careful to exclude the air from the syringe.

The secondary treatment will be opium as a restorative, 30 to 40 drops of Battley's solution by the mouth or in enema, quiet, beef, essence, milk, eggs, etc., in small quantities given frequently. Stimulants as demanded.

PROF. R. A. F. PENROSE, M. D., PHILADELPHIA.

Saturates a cloth with common *vinegar*, and passes it into the uterine cavity, and squeezes it. In a paper read before the American Gynæcological Society, he claims that this procedure rarely fails to stop the flow immediately. It can be easily obtained. It can be easily and instantly applied without apparatus. It has never failed in his practice. It is sufficiently irritating to excite the most sluggish uterus to contraction, and yet not so irritating as to be subsequently injurious. It is an admirable antiseptic. It acts upon the lining membrane of the uterus as an astringent.

H. P. C. WILSON, M. D , BALTIMORE,

Urges the introduction of the hand within the uterus, and raking the surface which has been occupied by the placenta with the finger-nails. He says that in one case no further hemorrhage occurred, though the uterus did not contract, and its mouth remained open for nearly an hour after this operation.

LOMBE ATTHILL, M. D., OF DUBLIN.

This author is convinced that there are cases where a powerful local hemostatic in the uterus is absolutely essential to save life. He states his conclusions formally:

1. That cases of post-partum hemorrhage occur in which the injection of the perchloride of iron, or some similar styptic, is alone capable of arresting the hemorrhage.

2. That the injection of such styptic does not necessarily increase the tendency which exists in such cases to the occurrence of pyemia, septicemia, or peritonitis.

3. That this treatment is specially applicable to anemic patients.

4. That while it should never be had recourse to unnecessarily, it should not, on the other hand, be delayed too long.'

In using the solution of the perchloride of iron, he carries out in the main the directions given by Dr. BARNES. He has not however, in any case injected more than six or eight ounces, sometimes as little as four ounces of the fluid. He also uses it somewhat stronger than Dr. B. does—namely, in the proportion of one part of the strong liquor, B. P., to two of water. The important point in using it is to take care that the end of the tube is passed up to the fundus of the uterus, and that the fluid be injected slowly.

GEORGE A. TYE, M. D., OF CANADA.

In using the hot water in post-partum hemorrhage, this practitioner (*Canada Lancet*, Nov., 1879,) dissolves in it one ounce of alum to the pint. He has found this attended with less disadvantages than the tincture of the chloride of iron. In a comparison of the two, he states the following conclusions:

1. That we possess two powerful topical remedies for post-partum hemorrhage.

2. That the iron is the more powerful to control hemorrhage, but by far the more dangerous one.

3. That hot water is nearly equal in hemostatic power, and without danger.

4. That we are rarely justified in using the iron before the hot water has been tried.

5. When the hot water fails, it is the duty of the accoucheur to use the iron.

6. The hot water has these advantages over the iron; it can always be procured; it washes away all clots, leaves the uterus clean, and therefore, no danger from thrombus or septicemia.

7. Alum is a valuable addition to the hot water, securing two forces, viz: the contraction of the uterus and the coagulation of the blood.

8. That we have not yet reached perfection in the treatment of the hemorrhage, and that abundant ground is open for observation and research.

In a discussion of this measure, at one of the London medical societies recently, Dr. JOHN WALTERS stated four conditions essential to success:

1. The uterus must be emptied completely.
2. The temperature of the water must be from 100° to 110°.
3. The tube must be passed to the fundus.
4. A considerable quantity of water must be used.

The advantages of warm water are that it is cleanly, always at hand, antiseptic, and perfectly safe. He drew three conclusions:

1. Severe hemorrhages were controlled by warm water.
2. Cold or ice, in conjunction, was useful.
3. In some cases, perchloride of iron must still be used.

RÉSUMÉ OF REMEDIES.

Acetum. Vinegar has a long-standing reputation in post-partum hemorrhage. Dr. DAVIS (*Obstetric Medicine*, 1836,) recommended the intra-uterine injection of one part of vinegar to two of water. It has recently been highly praised by Dr. PENROSE, of Philadelphia. (See page 258.)

Cannabis Indica was much esteemed by Dr A. CHRISTISON, but most later observers have failed to verify his statements. Dr. WM. DONOVAN, however (*Edinburgh Med. Jour.*, June, 1875), says in doses of gtt. xx. p. r. n., he never knew it to fail.

Capsicum. A teaspoonful of tincture of capsicum will often prove the best of stimulants in atony.

Chloralum, as at once a styptic and antiseptic, has been preferred for intra-uterine injections by some writers.

Ergota has been used in large doses by the mouth, in hypodermic injection, and locally as an intra-uterine application. Dr. LOMBE ATTHILL says that it is a most uncertain agent, and while most useful if administered some time before the occurrence of the hemorrhage, is, in his opinion, seldom of much value if given after it has set in. Ergot takes at least twenty minutes to act, and besides is often in these cases vomited. Injected hypodermically, it is capable of doing much good; but its irritating properties when thus used, render this method of employing it not altogether unobjectionable.

Erigeron Canadense, the "squaw-weed," has a popular reputation as a hemostatic in uterine hemorrhage. A teacupful of the infusion or five drops of the oil, may be given every half hour in light cases.

Ether has been used in hypodermic injection and as spray to the hypogastric region. The former has been especially recommended by Prof. VON HECKER, of Munich, in conditions of collapse from hemorrhage. The chief point to be attended to in making the injection, is to pass the syringe well down in the subcutaneous cellular tissue; otherwise troublesome abscesses may form at the seat of the injection. The quantity to be injected depends entirely on the pulse. Professor VON HECKER frequently injects from two to four drachms at short intervals. The effect is very transient, so that the injection may have to be repeated.

Ferri Chloridi Tinctura, strongly eulogized by BARNES, ATTHILL, HICKS, and others as an intra-uterine injection, has been severely condemned by Dr. SNOW BECK as dangerous. In certain desperate cases it seems the only resource which is efficient (see page 259). The tincture may be diluted, or used of full strength. The tube of the syringe should be carried to the fundus, and the contents gently injected; or a sponge may be steeped in the solution and carried to the fundus.

Ferri Sulphas and *Monsel's Solution* have at times been used, and may have some advantages over the chloride. Dr. WILSON, of Baltimore, states that the sub sulphate should be combined with glycerine, as the simple solution acts as an irritant. Others use f ℥ij of Monsel's solution to water f.℥vj, to wash out the uterus. It is sure to check the hemorrhage, but the sequelæ may not be agreeable.

Iodinii Tinctura has been used, some employing several drachms of the pure tincture, others diluting it in the proportion of f.℥j to water f.℥j. In a paper read before the Obstetrical Society of London, October, 1874. Dr. TRASK recommends this article as an injection into the cavity of the uterus, in hemorrhage after delivery, as perfectly safe—at any rate, free from the evils incident to the employment of iron. It is an antiseptic, and is probably the surest of all means of counteracting a tendency to absorption of septic matter into the system after delivery.

Ipecacuanha. In some cases a full dose of this drug, bringing on rapid emesis, causes strong contraction after inertia, and promptly checks the hemorrhage.

Nitrite of Amyl has been used by Dr. E. W. KERR (*Brit. Med. Jour.*, Nov. 1, 1869,) with excellent effect. Five minims were administered through an inhaler.

Plumbi Acetas. Dr. J. WORKMAN, of Toronto (*Canada Lancet*, Jan., 1878), urges acetate of lead in large doses, from ½ a drachm to a drachm; it will generally be found that in these large doses it acts as a moderate purgative within twenty-four hours; and, if it be desirable that, in order to avoid transformation, it should be expelled from the bowels in this way, it may be better to err on the safer side, which certainly is *not* its exhibition in *small* doses. In one case he gave 6 drachms in twelve hours. He quotes Dr. DANIEL CLARK and others of eminence, who give it in even larger doses, and with like good result.

Viscum Album, the mistletoe, has been introduced as an agent in post-partum hemorrhage by Dr. W. H. LONG, U. S. M. H. S. (*Louisville Med. News*, March, 1878). But as it requires "from twenty-five to fifty minutes" to produce uterine contractions, its efficiency is slight.

GENERAL MEASURES.

Cold. This should never be neglected. Fanning the genitals, spinal ice-bags, injections of ice water, a lump of ice in the uterus, ether or rhigolene spray to the hypogastric region, spine or

thighs, are some of the methods in which it may be used. A tumblerful of ice water flavored with brandy will sometimes act like magic, when given just after the second stage is completed.

Compression of the Abdominal Aorta may be carried out in thin subjects with delicate abdominal parietes.

Electricity and Galvanism have been found of decided advantage in some light cases, but cannot be depended on in severe ones.

Heat is at times more energetic than cold. CHAPMAN'S spinal hot water bags have been spoken of for the purpose. Dr. WINDEBRAND reported (*Deutsche Med. Woch.* June, 1876,) a desperate case where he threw into the uterus water at 120° F. by means of a uterine tube, which immediately caused a renewal of the pains, which, after an interval of five to ten minutes, and some eight or ten injections had been made in the meantime, ended in the expulsion of the whole of the contents of the uterus. Other cases have been reported by ATTHILL, MANN, etc. Dr. KOEHLER (*Gazeta Ckarska*, No 8, 1878,) has obtained relief in the most desperate cases by applying very hot sand bags to the head and cardiac regions. They are particularly useful to prevent collapse, and do not interfere with other means.

Mammary excitation, by applying the child, the mouth of the nurse or a cupping glass, to the mammæ, will occasionally excite uterine contractions.

Massage of the uterus by gentle and continued "hand kneading" is a simple and valuable plan to awaken the muscular contractility.

Position is always of great value. "It is most important," observes Dr. J. H. AVELING (*Influence of Posture on Women*, 1879), "that every woman suffering from uterine hemorrhage should be immediately placed in a recumbent position with the hips raised as far above the level of the shoulders as can conveniently be effected."

Pressure. "The value of pressure on the fundus," says Dr. ATTHILL, "can hardly be overestimated. It should be combined with friction." Mr. DAVID CHRISTIE (*British Medical Jornal*, June, 1878,) describes a method of arresting uterine hemorrhage by *fluid pressure*. He introduces an elastic bag into the uterus, connected with a tube seven feet and a half in length, the free end of which, after the bag is filled, is placed in water at the proper height. Mr. CHRISTIE reasoned that, as a tube placed in an artery has a column of water raised seven and a half feet by the heart's action, so his method would effectually arrest any hemorrhage that could occur, and allow the womb to contract and relax without the pressure of the water being interfered with.

Sinapisms to the extremities are among the means currently used, but are not very efficient. These are aimed to bring the blood to the limbs. With a somewhat similar idea, Dr. MÖLLER, of Vienna, has recommended (*Wiener Med. Presse*, No. 8, 1874,) applying the Esmarch bandage to the arms and legs.

Transfusion has been growing in favor of recent years, in desperate cases

of bleeding. The forms of transfusion most employed and attended with the best results are:

1. Transfusion with defibrinated blood.
2. Mediate transfusion with pure blood.
3. Immediate transfusion from "*vein to vein.*"
4. Immediate transfusion from "*artery to vein.*"

The first and third methods are most generally adopted—the danger of clots is avoided. The second is generally abandoned, as leading to embolism, etc. Instead of blood, Dr. J. W. HOWE (N. Y. *Med. Jour.*, 1875,) recommended goat's milk; and Dr. T. G. THOMAS and others have successfully employed cow's milk. The conclusions reached by Dr. THOMAS are embraced in the following propositions:

1. Injection of milk into the circulation, in place of blood, is a perfectly feasible, safe, and legitimate procedure.
2. In this procedure, none but healthy milk, drawn from the udder of the cow within a few minutes of its introduction into the vein, should be employed.
3. A glass funnel, with a rubber tube and a suitable pipe attached, is much better and safer than a more elaborate apparatus.
4. Intra-venous injection of milk is an infinitely easier operation to perform than transfusion of blood.
5. Intra-venous injection of milk, like that of blood, is commonly followed by a chill and rapid rise of temperature; but these symptoms soon subside, and are replaced by a great improvement in the general condition of the patient.

PUERPERAL ECLAMPSIA.

For many valuable points on the prophylaxis of this complication, see *Albuminuria.*

PROF. KARL SCHROEDER, ERLANGEN.

There are two methods of treatment, the abstraction of blood, or the use of narcotics. Venesection has often given favorable and exceedingly rapid results, but frequently the attacks have soon recurred, and then taken a more unfavorable course. A more rational treatment would be the paralysis of the activity of the voluntary muscles, and this can be done by narcotics; thus the convulsions are certainly checked for hours, and the blood is not deteriorated. SCHEINESSON has shown by experiment that chloroform diminishes the blood pressure in the arterial system. Experience is decidedly in favor of this treatment; but to be effectual, the narcosis must be absolute, so that the voluntary muscles no longer contract. As long as an eyelid quivers, another dose is required. Chloroform will do this, but as it must be maintained, morphia is better; or if haste is necessary, chloroform first, and replace it by subcutaneous injections of morphia. Chloral is also of great advantage, and may also be used subcutaneously; or an enema of mucilage of starch, ½ cupful with 32 grains chloral in an ounce of decoction of althæa.

Venesection may safely be omitted. No obstetric manipulation is required for the safety of the mother, but labor may be hastened to save the child.

PROF. W. S. PLAYFAIR, M. D., LONDON.

There are good grounds for believing that blood-letting is of only temporary use, and that it may even increase the convulsive tendency. In special cases, as where there is evidence of great cerebral congestion and vascular tension, as a livid face, a full-bounding pulse, and strong carotid pulsation, the patient a strong, healthy woman, it may be employed. Even here, a single bleeding is all that is ever likely to be of service.

As a temporary expedient, the carotids may be compressed.

Purgatives to remove any irritant matter lodged in the intestinal tract, may act well; as the comp. jalap powder in a full dose, or a

drop of croton oil, or a quarter of a grain of elaterium may be placed on the back of the tongue.

Chloroform may be used to control or ward off the paroxysm. It is advisable, however, to have a remedy more continuous in its action, and requiring less personal supervision. Chloral is decidedly this remedy, and, in combination with bromide of potassium, in the proportion of 20 grains of the former to half a drachm of the latter, repeated at intervals of from four to six hours.

Dr. HARRIS, the American editor of PLAYFAIR, has used bromide of sodium and chloral with good effect at shorter intervals, and the chloral in doses of 10 to 15 grains.

If the patient cannot swallow, it may be given by enema. The remarkable influence of bromide of potassium in controlling the eclampsia of infants, seems to be an indication of its use here.

Morphia may be given subcutaneously in the dose of ⅓ of a grain, repeated in a few hours so as to keep up its effect.

Acetic and benzoic acid, as antidotes to uremic poisoning, are too uncertain.

During the paroxysm, prevent the patient from injuring herself, especially biting her tongue, by placing something between her teeth.

As to the delivery, adopt that course least likely to irritate. If the fits seem to be induced and kept up by the pressure of the fetus, and the head be within reach, apply the forceps, or even resort to craniotomy. Otherwise, leave the case to nature.

PROF. FORDYCE BARKER, M. D., NEW YORK.

This physician places among the exciting causes of puerperal convulsions, anemia, albuminuria, uremia, indigestion, constipation, retention of urine, excessive distention of the uterus, reflex pains, or moral shocks.

As a prophylactic, he removes as speedily, and effectually as possible these exciting causes by appropriate treatment. If at the advent of labor, convulsions be threatened, he abstracts from the patient a moderate amount of blood, not enough to weaken her, but sufficient to restore the equilibrium of the circulation; he does not permit the bladder to become distended. If the patient is irritable, restless, complains loudly of little annoyances, and is sleepless, he tranquilizes her by a moderate opiate.

When the convulsion has occurred, he says, bleed at once, then give a brisk cathartic, as:

264. ℞. Hydrarg. chloridi mitis, gr.x
Pulv. jalapæ, gr.xx M.
Ft. pulv., No. j. Sig.—Take at once.

But if she be comatose, he mixes a quarter of a grain of elaterium with a third of a teaspoonful of butter, and places it upon the back of the tongue. This is to be repeated every half hour until active catharsis. To arrest and prevent convulsions, administer chloroform by inhalation.

Having overcome the immediate danger from convulsions by the means stated, he administers a full dose of morphia hypodermically.

DR. CHARLES, OF BELGIUM,

In the *Memoirs of the Belgian Academy of Medicine*, 1876, sums up as follows the treatment of eclampsia in his memoir on the convulsions of parturient women, which was crowned by the Belgian Academy of Medicine:

1. Mechanical eclampsia from the sixth to the ninth month: (*a*) Bleeding, if the case be urgent, or if there be true or apparent plethora; (*b*) drastics, in all cases, which may be more or less replaced by diaphoresis; (*c*) chloroform when the fits are about to commence, and during the clonic convulsions; (*d*) chloral in the intervals of the attacks, as an injection to beneficially fill the place of narcotics; any antispasmodic, such as bromide of potassium, may be added to it; (*e*) to finish the delivery, if possible, bring on labor, if the fits do not show signs of disappearing; to bring on forced delivery in very serious cases.

2. Reflex eclampsia before six months gestation, and after delivery: (*a*) Bleeding is but very rarely indicated; (*b*) purgatives are always somewhat useful; (*c*) chloroform, chloral, etc., should be continued as in mechanical eclampsia, and antispasmodics should not be neglected.

3. Toxic eclampsia: Fulfill the symptomatic indications; general or local bleedings to combat congestion of the brain and spinal cord when it is very marked; cold applications to the head, purgatives, diaphoretics, baths, revulsives, narcotics, anæsthetics, etc.

M. DUNCAN, M. D.

Comes to the conclusion (*Practitioner*, April, 1875,) that Bright's disease as a cause is overestimated. A temporary appearance of albumen in the urine is no certain indication of Bright's disease. The treatment is to empty the uterus; but, if labor is only commencing, it should only be done if the symptoms are desperate; with severe and frequent fits, cyanosis and profound coma, move the bowels, draw off the urine; tide over the crisis with bleeding; chloroform and chloral are useful; chloroform must be used with great caution where cyanosis is great.

PROF. F. WINCKEL, M. D., ROSTOCK, GERMANY,

Says venesection is very rarely required. Only the most imminent danger will be an indication for resorting to this measure. Generally severe attacks become milder when profuse perspiration is established after the delivery. Excite copious evacuations by drastics, as jalap, aloes, ext. colocynth, and enemata of vinegar and salt. As diuretics, tartaric acid, lemon juice, and flower of benzoin may be given. During the attack, chloroform may be used. If this be of no avail, strong doses of opium are of great value. Hypodermic injections, if the patient be unable to swallow. If there is great central congestion, leeches may be applied to the forehead or behind the ear. Cold compresses, ice bags, sinapisms to the back of the neck, or even cold irrigation of the head, are advisable. Afterwards, stimulants to prevent collapse when threatened, tonics and nourishment for hydremia.

WM. BERRY, M. R. C. S., EDINBURGH.

For the treatment we have three periods:

During pregnancy, when we must employ purgatives, bleeding, chloroform, and chloral.

During labor, chloroform and delivery.

After delivery, chloral and bromide of potassium. A single dose of 30 grains each of chloral and bromide will usually prevent a recurrence of the convulsion, and produce quiet sleep (*Obst. Jour. Grt. Brit. and Ireland*, April, 1878).

ANGUS MACDONALD, M. D., EDINBURGH,

(*Obst. Jour. G. B. and I.*, Aug., 1876), regards as the most important, sedatives and anæsthetics, and especially chloral, chloro-

form, ether, and bromide of potassium. He trusts chiefly to chloral, giving it in doses of 25 grains every six hours, so long as the fits continue or threaten. He believes that it acts to dilate the arterioles, thus favoring the disappearance of anemia in the brain; acts as a sedative to the nervous system generally; allays muscular irritability and spasm, and thus tends to obviate cerebral congestions and extravasations.

AFTER LABOR.

A. E. AUST-LAWRENCE, M. D., BRISTOL, ENGLAND,

(*Obst. Jour. G. B. and I.*, Oct., 1876), feeds carefully on milk diet for the first three or four days. Robust women who have eaten well up to confinement, require an aperient within 48 or even 24 hours after confinement. He prefers:

265. ℞. Hydrarg. chlorid. mit.
Pulv. rhei, āā gr.ij
Ext. belladon.,
Ext. opii, āā gr¼. M.

For one pill, to be repeated every 6 or 8 hours till the bowels act; generally three are required.

He urges ergot for the first week or two, if the uterus does not involute as it should.

H. B. WHITE, M. D., BROOKLN, N. Y.,

Employed jaborandi in the case of a primipara at full term, highly anàsarcous and urine very scant. The drug was given in infusion, one drachm of the leaves being used and divided into three doses at short intervals. After the first dose, profuse sweating and salivation ensued. There were three convulsions prior to, and several after delivery. The article was continued for three days, drenching the patient in perspiration. She completely recovered.

PROF. OTTO SPIEGELBERG, BRESLAU.

This writer (*Trans. Am. Gyn. Soc.*, Vol. II.,) states that the treatment must be directed to effect three objects:

1. The renal secretion must be restored.
2. The arterial pressure must be diminished.
3. Irritation of the nerve centers must be reduced.

These results are most easily attained by (1) venesection; (2) narcotics, and (3) if the patient be in labor, by its speedy completion.

In the treatment of true eclampsia he places *venesection* first. As soon as the patient is seen, let the brachial vein be opened and from six to sixteen ounces of blood be taken; and this be repeated unless its effects are decisive. In mere eclamptiform attacks, bleeding may be omitted. Narcotics should be administered soon after venesection. Among them, *chloroform* is the most advisable. The inhalation must be guarded, and only take place when the aura of another attack is observed. Its administration may be combined with that of morphia or chloral; the former subcutaneously, the latter by the rectum; of morphia gr. ¼, of chloral gr. xliv, are sufficient doses to begin with. When there is coma, cold applications to the head are useful. In the paralytic stage, stimulants must be resorted to. Diuretics are useful as after-treatment during convalescence.

RÉSUMÉ OF REMEDIES.

Aconitum has been used to reduce the arterial pressure. It is highly praised by PHILLIPS.

Belladonna is recommended by some writers as a sedative to the nervous system in these cases.

Benzoicum Acidum, as a diuretic, is valued as a prophylactic and to hasten convalescence.

Chloral Hydras acts as an anæsthetic, is claimed to be similar to chloroform in its effects. to allay irritation of nerve centres, and to have a decided effect in controlling convulsions from whatever cause. It thus relieves the physician of the difficulty of deciding whether the cause be plethora or anemia, whether to bleed or not. But, like bleeding, it is accused of producing anemia. It may be conveniently given by the rectum in an enema holding in solution gr.xxx–lx. Dr. DELAUNY, in a prize thesis, 1879, says that statistics show that puerperal convulsions treated by revulsives and antispasmodics show 50 per cent. of mortality, by blood-letting 24 per cent., and by chloral 13 per cent.

Chloroform is acknowledged by all authorities to be of the greatest value either with or without venesection. For particulars as to its administration, see page 269.

Jaborandi and Pilocarpin have both been advocated for their diaphoretic effects by MASSMANN, TEHLING, and others (*Cent. Blatt. für Gyn.*, 1878. The modus operandi is attempted to be explained on the FRAUBE-ROSENSTEIN theory of the convulsions. It is argued that the salivation and perspiration induced by the jaborandi or its alkaloid, relieve the excessive vascular tension. Two drachms of the fluid extract of jaborandi may be thrown into the rectum.

Opium and Morphia. These are invaluable narcotics in this disease.

They are best administered, opium by the rectum, morphia hypodermically. In sthenic cases, they should promptly follow venesection.

Potassii Bromidum is excellent as a prophylactic, gr.x, three to six times daily. In the attack, it may be advantageously administered between the seizures combined with chloral, of each. ʒss.

Sodii Bromidum acts similarly to the potassic salt, and may be used in its place.

Veratrum Viride has been much discussed as an aterial sedative. Some practitioners claim that it entirely does away with the need of the lancet. It may be given in hypodermic injection of gtt.v–x of the fluid extract; or by the mouth, in doses of gtt.v–xxx, repeated as required. If the pulse is full and above 80, give the doses fearlessly (*Trans. Am. Med. Assoc.*, 1876, p 240). An ounce has been administered in twenty-four hours with success. Others fear the depressing character of this remedy, and do not favor it.

GENERAL MEASURES.

Cold, in the form of ice to the head, spinal ice bags, etc., are valuable in states of coma.

Diaphoresis, in order to produce a derivative effect and relieve the kidneys, has been attempted, both by means of drugs, as pilocarpin, and by JACQUET, by enveloping the body in wet sheets wrung out in quite hot water. This can only be relied upon in mild cases, and rather as a prophylactic.

Purgatives diminish arterial attention, draw congestion from the renal regions, and are a rational mode of treatment. A full dose of calomel and jalap may be given if the patient is able to swallow; otherwise a drop of croton oil may be applied to the back of the tongue. In both cases an enema of castor oil and oil of turpentine, one tablespoonful of each in chamomile tea, should be thrown up the rectum (SPIEGELBERG).

Venesection is, in sthenic cases of true eclampsia, the most valuable of all remedial measures. See p. 264.

PUERPERAL MANIA.

A. H. KUNST, M. D., WESTON, W. VA.,

In a paper read before the State Medical Society, gives the treatment as follows: His belief is that the tendency in such cases is towards exhaustion, hence depleting measures must be regarded with great circumspection; rarely is venesection justifiable. At the onset, if the secretions are locked up, a dose or two of calomel or blue mass, and warming laxatives, may be given according to circumstances, with great care to prevent a drain. If there be increased heat of the scalp, apply cold to the head. A warm bath in the evening will be useful and soothing, and promote sleep. The best hypnotic is a combination of chloral and bromide of potassium. Symptoms may, however, indicate hyoscyamus, conium, camphor, monobromated camphor, opiates, etc. Tranquillity should be invited and encouraged by the attentions of a trained nurse, and all interference prohibited. Husband the strength, and, if necessary, use the camisole to restrain too constant movements. Diet should be nutritious and generous, and easy of digestion. Iron, quinine, phosphorus, etc., should be employed as indicated. If acute delirium occur, and she refuses food, use the œsophagus tube, and inject twice daily beef tea, and milk, and eggs alternately.

The moral management is important, and she should be guarded against self-injury. Generally, the wiser plan is to remove her from her familiar surroundings, to change the train of ideas. Interviews with husband and friends should be restricted. Often she regards them as her enemies, and their visits add to the trouble. Exercise in the open air, with some light, congenial employment, is of great value. Convalescence should be aided by a few weeks at an agreeable resort, or pleasure-traveling.

S. PUTNAM, M. D., MONTPELIER, VT.,

Says, in the *Transactions* of the Vermont State Medical Society, 1879:

First learn betimes the vulnerable points and tendencies of patients, and regulate their hygiene and medication accordingly. Should a latent albuminuria be found, let the patient live upon

milk diet; use the warm sitz bath at night, followed by abundant frictions to the back and limbs. In the morning, cold or tepid sponging, with friction, to be followed by walking, or carriage exercises. At lying-in, avoid as far as possible the causes of anemia, prostration, irritation and excitement.

Should the patient be unable to sleep, make the conditions the most favorable to secure that result, and if sleep does not occur, use chloral, morphia and camphor, or whisky in quantities ordinarily adequate to produce that effect, and we shall seldom have puerperal mania to treat. But should a threatening case explode, notwithstanding your care, perhaps a cathartic is needed, especially if constipation exists, after which a more efficient use of anodynes, stimulants and tonics may succeed. Should they not, and the delirium be violent, aconite, veratrum or digitalis might be used, oreven anæsthetics. When uremic delirium or stupor is evident, use ten grains nitrate of potassa, one drachm nitrous ether, and five drops of dilute nitric acid in water, every four hours; or instead, when insomnia persists, ten or fifteen grains bromide potassium every two hours, alternately with twenty drops tinctura ferri chloridi. Meanwhile, nutrients, stimulants and tonics, are to be given as needed.

PROF. WM. LEISHMAN, M. D., GLASGOW.

We can scarcely doubt that when there are indications of cerebral disturbance, much may be done to ward off an attack, particularly where there is a hereditary taint, or where insanity has been present at previous confinements.

It must be remembered that it is essentially a disease of debility, and hence blood-letting must be used, if at all, with very great caution, for we may thus precipitate a fatal result. It should only be used in actual phrenitis.

Gastro-intestinal disturbance will require from the first prompt attention. Relieve the overloaded bowels, and keep them cleansed. Aloetic purgatives are very appropriate. Where the powers are not low, and there is a foul tongue, offensive breath, a yellow eye, an emetic of ipecacuanha may be given. Gooch believed this, and most modern writers agree. But, of course, this is contra-indicated when the face is pale, the skin cold, the pulse quick and weak. When much vascular excitement presents, cold to the head, or, even better, laving the forehead and temples with warm

water, after which there is a refreshing coolness, may produce the desired effect. Tartar emetic very guardedly, or tincture of aconite, or of veratrum viride, are useful.

The nervous sedatives are most important, and at the head of the list is opium, the sheet anchor. It must be given in very large doses. If there is difficulty in giving it, introduce a suppository into the rectum, of one or two grains of morphia. Remember that TUKE says opium or other narcotics are not to be used in acute mania. Chloroform has been employed beneficially; the patient being placed fully under its effect, and so kept for a season. Hyoscyamus, with ether or ammonia, and Indian hemp, have been used for the same purpose. GOOCH's favorite was camphor. Chloral has now superseded opium, and is a most valuable article. The warm bath is an excellent sedative, and may succeed in the failure of drugs. Procure sleep, and the patient may at once recover.

PROF. W. S. PLAYFAIR, M. D., LONDON.

Maintain the strength of the patient, calm the excitement, rest the disturbed brain. Over-active measures, as bleeding, blistering the shaven scalp, and the like, are distinctly contra-indicated.

Abundance of nourishment comes next. Give solid food principally, reserving beef-tea and brandy later. Food must be given forcibly, if necessary.

Stimulants increase the excitement, and are only useful in melancholia.

Keep the bowels well cleansed.

Procure sleep; nothing is so valuable as chloral, alone or in combination with bromide of potassium; 15 to 30 grains at bedtime rarely fails to procure sleep; give this in an enema, if the patient will not swallow.

Opiates are apt to do more harm than good.

BLANDFORD, on this point, says he believes opium never does good, and may do great harm. This applies equally, whether by the mouth or hypodermically. Often, after an opium sleep, the patient quickly rouses, and all is worse than before. In melancholia, in moderate doses, it may be given with advantage.

The prolonged use of the warm bath, say at 90°, for half an hour, has acted well as a sedative. The wet pack is equally good, and is more readily applied in refractory cases.

ALFRED MEADOWS, M. D., LONDON,

Takes almost precisely the same ground. Remove all supposed sources of irritation; quiet the nervous system; support the strength. Oppose constipation with 20 or 30 grains of jalap powder and two to five grains of calomel, followed by saline aperients. RIGBY advised antimony with calomel and ipecacuanha, as too speedy to depress, and acting as a rapid purge; it acts, she falls asleep, perspires freely, and wakes greatly refreshed. As a rule, eschew opiates, they increase the irritability and favor cerebral congestion. Chloral may be given in doses of 20 to 60 grains, induces sleep without excitement or depression; henbane and chloroform are of great service. White hellebore has been recommended, and Indian hemp also. Hydrocyanic acid in doses of 5 minims of the dilute acid, every four hours, has been found of great value.

Vigilance must be great. Support with beef tea, wines, etc.

PROF. FORDYCE BARKER, M. D., NEW YORK.

Bleeding is useless, even injurious, as are vascular sedatives, except where there is also a latent local inflammation. Laxatives and emetics should never be given, except when positively required.

Insomnia, a striking feature, would suggest opium, but it will not, in any doses, cut short an attack, but may be of service where there is latent pelvic peritonitis.

Allay brain excitement by restoring exhausted nerve power; improve the nutrition of the brain by easily-assimilated food. Tonics are of great service, as tinct. of chloride of iron, chlorate of potassa, and the sulphate of berberina. The latter is preferable to quinine, as it has much less tendency to induce cerebral congestion.

Induce sleep. Neither opium nor bromide of potassium will, as a general rule, do this. Chloroform also has disappointed nearly all. Chloral is of immense value; it does not interfere with any of the organic functions, is not followed by any unpleasant secondary effects like opium, and never fails to produce sleep. This is prolonged for hours, and if interrupted, the patient falls asleep again without a renewal. It is best given in doses of 15 or 20 grains well diluted, and repeated every two hours till the effect is produced.

Combat all complications. Give laxatives for constipation, diuretics for deficient renal secretion. If cerebral erethism arise, shown by the flushed face and red eyes, give bromide of potassium, 20 to 30 grains every six hours; but at night, for sleep, suspend this and give chloral. Watch for local inflammations, and employ appropriate remedies.

In puerperal mania accompanied with high fever, restlessness, head symptoms and scanty secretion of milk, *aconite* acts speedily and markedly if given soon after the chill. (PHILLIPS.)

When the delirium is wild and furious, but intermittent, with scanty secretion of milk, etc., *stramonium* is useful. The nervous system is relieved, the flow of milk renewed, and sleep restored. From a quarter to a half grain of the extract in 10–20 minims of the tincture may be given every three or four hours until relief is obtained. The lochia, etc., should be watched, and the patient's powers sustained by nutrition and stimulation. (PHILLIPS.)

In puerperal hypochondriasis, Sir JAS. Y. SIMPSON, after failure with many remedies, used tincture of *cimicifuga*, fifty drops a day. In eight or ten days, the change for the better was marvelous, and the patient was completely restored to her former health and spirits.

Prof. BARTHOLOW also speaks of its value.

PUERPERAL FEVER (PUERPERAL SEPTICEMIA. PUERPERAL PYEMIA).

JAS. G. GLOVER, M. D., LONDON.

In the *Lancet*, Feb. 1, 1878, includes under the term "puerperal pyrexiâ," all cases of high temperature not associated with obvious external inflammation as in the breast, or with obvious infection from the common infectious diseases. Presumably the local lesion is uterine or peri-uterine, for there is almost always more or less pain in and tenderness over some part of the uterus, with a good deal of abdominal distention. There is also generally a quick pulse, and the thermometer, which is an invaluable guide in such cases, shows a high temperature. In no case has he seen suppuration, and the patient has got well gradually.

He sums up the treatment: First, a dose of quinine and iron every three or four hours. The following is a good form in which to give these:

266.	℞.	Quiniæ sulphatis,	gr.ij	
		Ferri chlor. tinct.,		
		Sp. chloroformi,	āā ♏x	
		Syrupi simp.,	f.℥ss	
		Aquæ destil.,	f.℥j.	M.

For one dose.

Secondly, a dose of opium every three, four, six, or eight hours, according to the pain, without ipecacuanha, which may set up sickness, and without calomel, which may set up unnecessary irritation of the bowels. The dose of opium, say half a grain, is best given in a small pill. Thirdly, a large linseed or bran poultice over the stomach, repeated every three or four hours. A little laudanum in it often adds much to its soothing effect. Fourthly, and specially, vaginal injections, at least twice a day, of warm water with a little Condy's fluid in it. The diet should consist of good beef-tea or chicken-broth, with generally a small regulated allowance of brandy, a dessert-spoonful every three or four hours. Sometimes the brandy is best given with arrowroot.

HUGH MILLER, M. D., OF GLASGOW.

Excessive and Septic Lochial Discharge. This teacher, in a clinical lecture, reported in the Edinburgh *Medical Journal*, Nov.,

1878, recommends the following prescription in cases in which there is an excessive discharge, accompanied by a relaxed condition of the uterus. He administers ʒj. doses of liquid extract of ergot, repeated every three or four hours, and

267. ℞. Quiniæ sulph., ʒss
Acidi hydrobromici, ʒvj
Aquam, ad ʒij.
Dose, teaspoonful in water three times a day.

By this method large doses of quinine may be given without causing headache.

In septic cases Dr. MILLER advises the employment of *sulphocarbolate of potassa*, in the form of powders, in doses of 10–15 grains internally three times a day. When the discharge is suspended, the treatment consists of turpentine stupes applied over the lower part of the abdomen, with the addition of warm moist cloths, or of sponges pressed out of hot water, and applied to the external parts. In special cases, which require an antiseptic plan of treatment, Dr. MILLER makes use of a solution of *thymol*, 1 part to 500 parts of water, or, better, three grains of thymol to an ounce of Eau de Cologne. This mixture, which has a pleasant and rather refreshing odor, is simply sprinkled over the napkins before they are used. In severe cases, with a putrid odor, a solution of *permanganate of potassa*, injected with Higginson's syringe, provided with a vaginal portion, is made use of; the injection of the fluid is continued till it returns unaltered in color. In all cases where the discharge is excessive, tincture of *arnica* is employed; the tincture is used in the proportion of one teaspoonful to a cupful of water; it acts as a mild astringent and disinfectant.

PROF. FORDYCE BARKER, M. D., NEW YORK

This author has an exalted opinion of *veratrum viride* in this disease. He however recommends small doses, and the effects to be carefully watched. If the remedy produces symptoms of depression, these symptoms have been readily dissipated by brandy, whisky, or carbonate of ammonium. The veratrum viride should not be discontinued too early, as its premature withdrawal may be attended with renewal of the symptoms. He usually commences by giving five drops every hour, and gradually increasing the dose, if there be not a perceptible impression upon the pulse after giving two or three doses. After the pulse is reduced, it is

thus maintained by administering two, three or four drops every second hour.

It is also very important in this disease to allay pain, quiet nervous irritation, and secure sleep. These ends are best secured by opiates. He prefers Magendie's solution of morphia by the mouth, if the stomach is not irritable, but hypodermically, if there be nausea and vomiting.

The next indication is to reduce fever. Quinine, mineral acids, cold sponging, alcohol, and appropriate nutrition, are the antipyretics upon which the medical profession now relies. Of the mineral acids, our author prefers phosphoric acid. He believes that it allays *nervous* irritability and that it acts specifically as a tonic. He adds a teaspoonful of the dilute acid to a tumblerful of water, flavored with the syrup of orange peel. If the patient be disinclined to drink, he has sometimes substituted ten to fifteen drops of dilute sulphuric acid every two or three hours. The treatment of pyemia must be governed to a great extent by the therapeutical indications of its associated diseases. Prof. B. regards quinine and alcohol as the two great remedies in the constitutional treatment of this disease. He prescribes ten to fifteen grains of quinine in the morning, and from fifteen to twenty at night. If from idiosyncrasy there is an intolerance of this agent, he combines it with from ten to fifteen grains of the bromide of potassium. This counteracts the unpleasant cerebral symptoms which sometimes occur. He has never seen quinine produce paralysis of the motor power of the heart. He thinks a free use of stimulants obviates this danger. These he pushes to a degree of tolerance. To procure rest he advises an opiate at bedtime. Food the most nourishing and the most easily digested should be urged upon the patient, and skill should be used to make it tempting and palatable. If the urine become scanty, bloody and albuminous, he orders dry cups over the kidneys, the free use of diluent drinks, and the tincture of the chloride of iron. The latter is very useful in conjunction with the chlorate of potassium when there are very profuse discharges of pus from external abscesses. He esteems the following combination:

268. ℞. Tinct. ferri chloridi, f.℥ss
Aquæ puræ, f.℥ijss
Potassii chloratis, ℥ss
Syr. aurant cort.,
Glycerini puri, āā f.℥ij. M.

Sig.—Tablespoonful in a wineglassful of sugar and water four times a day.

SEPTICEMIA.

PROF. W. S. PLAYFAIR, M. D., LONDON,

Regards the indications: to discover, if possible, the poison, in the hope of arresting further septic absorption; to keep the patient alive until the effect of the poison has worn off; and to treat any local complications that may arise. Antiseptic injections must be employed at least twice a day. He employs Higginson's syringe with a long vaginal pipe attached. He prefers the alternate use of Condy's fluid largely diluted, and the tincture of iodine. The washing should be thorough, and by the physician himself. Food and stimulants to keep up the powers. Not more than one or two hours to elapse without nutriment of some kind. In moderate cases a tablespoonful of brandy or whisky every four hours; but when the pulse is rapid and thready, there is low delirium, tympanites or sweating, indicating great exhaustion, give them in larger quantities and at shorter intervals. In severe cases eight to twelve ounces, or even more, may be given in twenty-four hours with benefit. Never bleed.

Give medicines to lessen the force of the circulation without exhausting, and to diminish the temperature. Tinct. of *aconite* is most valuable. Give a single drop every half hour, increasing the interval according to the effect. Generally, after four or five doses the pulse falls, and then a few doses every two hours will suffice. Watch it, and stop if the pulse becomes too weak, or intermits.

To reduce the temperature, give *quinine* ten to twenty grains morning and evening. The head and other unpleasant symptoms may be lessened by the addition of ten to fifteen minims of hydrobromic acid to each dose. *Salicylic* acid ten to twenty grains, or the *salicylate of soda* in the same dose, is a valuable antipyretic. It requires to be watched.

Warburg's tincture, the basis of which is quinine, has a powerful antipyretic effect.

Cold may be applied in suitable cases. The ice-cap is best; it comforts, relieves the throbbing headache, and the temperature usually falls. When the temperature reaches 105°, cold to the body may be used, but only as a temporary expedient.

Where there is much tympanites, *turpentine*, fifteen to twenty minims, may be given in mucilage. It acts as a strong nervine stimulant.

Purgatives are doubtful and often exhausting.

ALFRED MEADOWS, M. D., LONDON.

Quiet the system by opiates in the early stages, moderately excite the bowels by a saline, stimulate the skin by small doses of *carbonate of ammonia* or other stimulating diaphoretics. Local applications, poultices to the abdomen to keep the part warm and moist, will be of service, and opium may be added to these.

When the reactive phenomena of inflammation are well marked, leeches may be applied over the abdomen, from six to twelve, as may be demanded.

Venesection, when needed, must be *pleno rivo*, thus producing the effect at once, and with less loss. Next, nauseating doses of *tartar emetic* to lower the force of the heart's action; and if the pulse again becomes hard and full, repeat the bleeding till the disease is subdued. *Calomel* and *opium* freely, in order that the system may be brought quickly under the mercurial. *Mercurial* frictions may be used. *Turpentine* has been successfully given in ½ ounce doses, two or three times a day, especially in tympanites.

The uterus should be well disinfected by warm water and carbolic acid, or Condy's fluid. If there be much pain, give Dover's powder frequently, and keep up the strength.

His own plan is to support by a moderate use of stimulants, a hot, dry skin being a contra-indication; warm emollients to the vagina and to the abdomen; cleanliness in the atmosphere, the clothes and the uterus. The diffusible stimulants, opiates, salines, diaphoretics, and vegetable tonics, when the acute symptoms are gone, are the drugs to be preferred. With a high temperature, pulse quick, hard and full, skin hot and dry, nothing can compare with *aconite*, one drop every hour.

THE ANTISEPTIC MANAGEMENT OF LABOR

Has been recommended by a committee of the Berlin Obstetrical Society, as a preventive of septicemia.

BISCHOFF AND ZWEIFEL

Prescribe cleanliness in the parturient woman and her surroundings; the use of antiseptic injections in the vagina in the beginning and at intervals during the course of labor; and the thorough disinfection of the hands before, and inunctions with carbolized oil during examinations. Immediately after delivery, the vagina is

injected, as well as the uterus, if its cavity has been entered by the hand; and, during the puerperal state, vaginal injections are continued daily. The vulva and perineum are protected by a pad soaked in ten per cent oil, which is frequently renewed.

PROF. ZWEIFEL, ERLANGEN.

Antiseptic Midwifery. In the *Berliner Klin. Wochenschrift*, No. 1, 1878, he alludes to the plans of several authorities: BISCHOFF, of Basle, gave a bath at the outset of labor, washing out the vagina with a two per cent. carbolized lotion, anointing the fingers of the attendant with a ten per cent. lotion at every examination, previously disinfecting the hands by washing in carbolized water. When the hand must be passed within the uterus, or if the fœtus was well decomposed, the cavity was irrigated well with the lotion, and the injections were continued for thirteen days after delivery. After labor, any wound was touched with a ten per cent. lotion. A pad of wadding soaked in carbolized oil, one part to ten, was placed at the opening of the vagina, and frequently renewed.

H. FEHLING, at Leipsic, applied salicylic acid and starch, one part to five, to all wounds, and syringed the vagina several times a day, in case of fetid discharge, with a salicylic lotion.

SCHUCKING employed at the close of labor a carbolized lotion of five per cent., to irrigate the parts.

ZWEIFEL'S own method is partly the use of antiseptic measures, and partly adoption of the most scrupulous cleanliness in connection with the surroundings of the puerperal woman. All vaginal examinations *during pregnancy* are made only after careful washing of the hands and smearing with carbolic oil, the vagina being further washed out afterwards in some cases with five per cent. carbolic solution. The reason for these precautions is the possibility of infectious matter being introduced into the vagina previous to labor, of its lying there and being sucked up into the uterus after the expulsion of the fœtus.

The rooms and beds destined for the use of the lying-in, are carefully disinfected by burning sulphur in them in fire-proof vessels, allowing about four grammes of sulphur to each cubic metre of space. The bedclothes are spread out so as to expose as large a surface as possible to the fumes, which, after a few hours, are allowed to escape by opening the windows.

After each labor in which the hand has been introduced into

the uterus, or where air has gained entrance to it, or gaseous decomposition occurred in it, the uterus is washed out with several litres of fresh water.

Since almost all the cases of puerperal fever are found to be complicated either with ruptured perineum, small rents in the vagina and vulva, or with the introduction of air into the uterus during some operation, the greatest care is bestowed on all external wounds, to which FEHLING'S mixture of salicylic acid and starch is applied with the best results. Careful examination of the external genitals day by day, and the use of the thermometer, are also rigorously attended to.

PUERPERAL FEVER.

DR. FRITSCH, OF HALLE,

In the *Sammlung Klinischer Vorträger*, No. 107, insists on prophylaxis. A bottle of strong carbolic acid solution is always to be carried. Before examination, the hands, washed, are to be disinfected with the acid and a nail brush. When labor sets in, the woman is to be placed in a hip-bath, well washed with soap, and the vagina syringed and the vulva cleansed with carbolic acid. Repeat if labor is slow, and before and after any operation. FEHLING, of Leipzig, has abandoned parturition under carbolic spray, believing that it predisposes to post-partum hemorrhage. The author recommends its use in lying-in-hospitals at all operations when fever is endemic. After delivery in all cases the vagina is to be syringed and the vulva cleansed with the acid twice a day. If fever arise, and where a fœtus is decomposed, intra-uterine injections are used.

SEPTICEMIA.

S. E. ROBINSON, M. D., WEST UNION, IOWA,

Gives (in *Med. and Surg. Reporter*, 1878) his success in the prophylaxis. He learned the plan from Prof. CLEAVER, of Keokuk, who directed a copious vaginal injection of carbolized water three or four times a day for several days after delivery. Dr. ROBINSON has followed this plan for several years, and has failed to see any case of puerperal infection since.

WALTER IZARD, M. D., LIBERTY, VA.,

In the *Va. Med. Monthly*, Aug., 1878, regards the cause to be the retention and absorption of excrementitious and morbific mat-

ter. Hence he strikes at the root by employing, not intra-vaginal washes, but intra-uterine. He employs a double catheter similar to that in common use for washing out the bladder, only with a larger and more gradual curve, and a slight prolongation of two tubular orifices through which the injected fluid makes its entrance and exit; the exit tube should be several sizes larger than the other. It may be made of gutta percha or silver; two pieces of rubber tubing 2½ to 3 feet long should then be fitted to the tubular orifices; to that of entrance a large glass funnel should be attached.

Everything being prepared, and the patient occupying the dorsal decubitus, with the lower extremities flexed, and the body having been placed near the edge of the bed by assistants, the left index finger, well oiled, should be placed in contact with the external *os uteri;* then the catheter, passed along this finger as a guide, should be passed to the fundus uteri—meeting in this condition no resistance at the internal *os.* Then the fluid having been poured into the funnel, it should be raised to the height of two feet above the bed, and the fluid allowed to flow into the uterus, the only force used being hydrostatic pressure. The fluid will be found to return almost immediately through the waste tube, so changed in appearance as to leave no doubt as to whether it has come in contact with the internal uterine walls or not. This funnel arragement is the one calculated to accomplish the desired end with the least possible amount of injurious force. By the Davidson's or any other pump-syringe, the fluid is thrown in with such force as almost to render its escape through the Fallopian tubes a certainty.

The washing out of the uterine cavity should cause no pain, although slight uneasiness is sometimes complained of by patients during the introduction of the instrument. The fluids used for washing out the uterine cavity have been several—preferably potassæ permanganate (grs. 7½ to one pint of tepid water), or carbolic acid (℥j. to the pint of water) and a weak solution of salicylate of soda in glycerin and water.

JOSEPH HOLT, M. D., OF NEW ORLEANS.

In reviewing the subject, this writer says (*New Orleans Medical Journal*, Sept. 1876), that the physician's first duty is, to guard every obstetric patient against septic contamination from without, by refraining from attending such cases if we have reason to be-

lieve that our hands or clothing are infected; by the liberal use of disinfectants about the apartment or premises, and even removing the patient if we suspect the unhealthiness of the locality.

We are to guard against auto-infection by cleanliness, by the free use of vaginal injections when there is even the slightest putridity of the lochia, by the immediate removal of any remnant of decomposing placenta or coagula, by the avoidance of anything likely to check the lochial discharge, as cold and dampness, and when it is checked, inviting it again by the repeated warm douche. As a disinfecting wash, he earnestly recommends the formula of Dr. I. L. CRAWCOUR, of New Orleans:

269. ℞. Acidi carbolici, ʒj
Tincturæ iodinii compositæ, f.ʒss
Glycerinæ, f.ʒijss, M.
Sig.—A tablespoonful to be stirred into a quart of tepid water, and injected high up in the vagina two or three times daily, as the case may require.

If infection has already occurred, we are to look to antiseptic remedies as offering the most reasonable hope of success. If puerperal fever is septicemia, it is irrational to expect a positive controlling influence from opium or calomel, purgatives, emetics, venesection, cardiac sedatives, or any other remedy not having the quality of directly disinfecting the blood.

There is no doubt but that some of these drugs and expedients are extremely useful in the treatment of this disease, but as a mainstay, experience has taught that none of them are to be relied upon. He has administered, with an apparent speedy amelioration of symptoms, the following formula:

270. ℞. Acidi carbolici, gtt.xx
Sodii sulpho-carbolatis, ʒss
Glycerinæ, f.ʒj
Aquæ, f.ʒv. M.
Sig.—Tablespoonful every three hours.

The old remedies, approved by experience, are called for when specially indicated; as in many cases keeping the bowels freely open by mercurial purgatives, the pill of calomel and compound extract of colycynth, subduing excessive heart action with veratrum viride, blistering when the inflammation localizes itself, and attending to the state of the lochial discharge.

In cases where the local inflammation is attended with excruci-

ating pain (of such common occurrence), he has been able to control it perfectly by applying over the suffering part a fly-blister, removing the cuticle, and then laying on a plaster composed as follows:

271. ℞. Ex. belladonnæ,
Ex. opii, āā ʒj
Adipis, ʒj. M.
For a plaster.

The effect of this plaster is so tranquilizing as to do away with the necessity of narcotics given internally. The physician must carefully watch its effect, and remove it for a while if much narcotism is induced, protecting the blistered surface in the meantime with an emollient poultice. The strength of it may be increased or diminished according to the effect, and it may be continued as long as there is abdominal tenderness.

PROF. CARL RICHTER, M. D., OF BERLIN.

The treatment of puerperal disease pursued by this writer (*Zeitschrift für Gyn.*, 1877,) may be briefly stated as follows: As soon as the lochia became offensive or arrested, or offensive placental débris or coagula were discharged, or the temperature or pulse rose, or any inflammatory reaction in the genital tract appeared, or the uterine regions and surroundings became sensitive, or the broad ligaments appeared swollen—at once the uterine cavity and vagina were thoroughly washed out, first with a three per cent., then with a two per cent. carbolic solution, two or three times a day; the permanent ice-bladder was applied, preceded, if indicated, by leeches; and, according to the severity of the symptoms, first salicylate of soda in doses of gr.xv–xxx several times a day. The ice was continued so long as sensitiveness remained; the irrigations and soda salicylate, until pulse and temperature were reduced to the normal.

It should be mentioned that a combination of sulphate of quinia (gr.viij), with soda salicylate (gr.xv–xxx), could be relied upon with tolerable certainty, although but temporarily, to reduce the high temperature, without causing salicylic intoxication; a ten per cent. solution of carbolic acid was very useful as a local application to wounds of the parts.

PUERPERAL SEPTICEMIA.

W. H. PARISH, M. D., PHILADELPHIA,

In a paper read before the Philadelphia Co. Med. Soc., being a clinical study of the cases at the Philadelphia Hospital, concludes as follows:

Puerperal fever and puerperal septicemia, are dependent upon one and the same poison, and this poison originates in a great variety of forms of decomposing organic material. The source of the poison may be within the woman herself, or it may have its origin in sources external to her.

Puerperal fever or puerperal septicemia may be conveyed from one puerperal patient to another.

If a lying-in patient is suffering with traumatic inflammation, she is thereby rendered more liable to internal infection.

The poison develops with great rapidity in a lying-in patient, suffering with traumatic inflammation, and from her it may be transferred to other lying-in patients, and in them it may produce septicemia or puerperal fever, though the original patient may herself have escaped infection.

In a patient suffering with auto-genetic infection, the symptoms vary greatly, according to the absence or presence and degree of traumatism, and according to the special mode of the internal infection.

The symptoms in patients suffering from external infection are more uniform in their manifestations, as are also the pelvic and abdominal lesions.

The treatment of cases of internal infection must vary greatly for the same reasons that the symptoms vary.

In cases of external infection, the treatment is more uniform, and should consist, as a rule, of local abstraction of blood by leeches, 16 to 20 f.℥, of warm, moist applications, of warm, disinfecting vaginal or intra-uterine injections, of quinia in full doses, of morphia as a calmative, of a mild diuretic, of stimulants according to depression, of moderate constipation after an enema, and of liquid and highly nutritious diet.

The prophylaxis is of, however, paramount importance, and should consist of measures that will prevent the formation of septic material within the woman, and that will prevent the conveyance of septic material to her person from external sources.

RÉSUMÉ OF REMEDIES.

Acetum: As a germ destroyer and disinfectant, Dr. ALEXANDER SIMPSON, of Edinburgh, calls attention to common vinegar, which on many occasions he has found extremely efficacious (*Trans. Internat. Med. Congress*, 1876).

Aconitum. PHILLIPS is very positive as to the good effects of *aconite* in drop doses every hour or two day and night. If employed immediately after signs occur, it will be most beneficial.

Alcohol in strong solution has been used by French practitioners.

Arnica is used by Dr. MILLER.

Calcii Chloridum in weak solution is available.

Carbolicum Acidum is the most widely used of the antiseptic agents.

Chloral Hydras. Dr. J. A. LARRABEE, of Louisville, has found a solution of chloral of mild strength, gr.x to f.℥j, much more efficacious in checking an epidemic of puerperal fever than carbolic acid or anything else (*Half Yearly Compendium*, July, 1878). He states that in all labors there is an odor to the lochia, plainly discernible at the end of the first twenty-four hours. If this condition remains uncorrected, and the nurse neglects to attend to her duties, there is great danger of septic poisoning. A solution of chloral of mild strength, in water, and by means of the douche or fountain syringe, removes at once not only the odor, but destroys the noxious influence of such poison. Carbolic acid, although it has been much lauded, is, in his judgment, entirely unreliable, and merely substitutes its own odor for that of the disease.

Ferri Subsulphas is an antiseptic agent of value, as well as a hemostatic. Dr. H. P. C. WILSON, of Baltimore, recommends that it be combined with glycerine when used in the uterine cavity.

Iodinium. Dr. E. J. TILT believes that tincture of iodine is the best disinfectant for uterine injections. He uses as an injection after labor, four drachms of the tincture in half a pint of tepid water. He speaks very highly of the results of the practice of Dr. DUPIERRIS, of Cuba, who had great success in preventing and curing puerperal fever by injecting into the womb, immediately after removing the placenta, the following:

272,	℞.	Tincturæ iodinii,	f.℥iv	
		Potassii iodidi,	gr.x	
		Aquæ destillatæ,	f.℥j.	M.

For one intra-uterine injection.

Opium and Morphia. Enormous doses of these preparations can be taken with advantage in puerperal fever. Dr J. P. WHITE, of Buffalo, says he has given as much as one grain of morphia every hour for forty-eight consecutive hours, with success. Dr. E. H. TRENHOLME, of Montreal, gives from one grain to a grain and a third hourly, and has never lost a case. (*Trans. Internat. Med. Congress, 1876.*)

Potassii Permanganas in weak solution answers very well as an antiseptic wash. One objection to it is, that it stains the bedding, etc. Where soreness and tenderness of the vagina after labor are complained of, Dr. P. J. MURPHY, of the Columbus Hospital for Women, Washington, uses:

273. ℞. Potassii permanganatis, ℈j
Potassii chloratis, ʒiv
Aquæ, Oij. M.

A teacupful to be added to a quart of warm water, and used as a vaginal injection night and morning. Dr. BARTHOLOW states that internally it has been given with advantage, gr. ¼–j, in water, three times a day.

Quiniæ Sulphas, especially in the form of "Warburg's tincture" has lately been asserted to be a very valuable remedy in puerperal septicemia. Cases are given by Dr. A. BAIRD, Edinburgh, *Med. Jour.*, Aug., 1879. BARTHOLOW speaks of the undoubted good effects of quinia in doses of gr. v–xx, every four hours.

Salicylicum Acidum has been used both locally and internally.

Sodii Benzoas has been introduced comparatively recently by Prof. KLEBS, of Prague. It is said to be useful in every kind of septic injection. The dose is ʒij–iv in solution, repeated as needed. A few cases have been reported in which its administration seemed to do good, but they have not been sufficiently numerous to be decisive as to its merits.

Sodii Salicylas, as more agreeable than the acid, should be preferred for internal use.

Sulphurosum Acidum, for injection and irrigation, has been advocated.

Terebinthinæ Oleum is said, by BARTHOLOW, to have decided clinical experience in its favor.

Thymol has been employed as an antiseptic by Dr. MILLER.

Veratrum Viride has its defenders as a valuable means to control arterial action. But the present tendency is to distrust this drug.

GENERAL MEASURES.

Blisters are often of great service.

Purgatives have been long used in the treatment of this condition.

Venesection is less used than formerly. As the disease is one of an asthenic character, the cases in which loss of blood is desirable must be very rare and exceptional in number.

PUERPERAL THROMBOSIS AND EMBOLISM.

PROF. W. S. PLAYFAIR, M. D., LONDON.

When there are evidences of pulmonary obstructions generally, the fatal results follow so speedily that no time is given to do anything. Keep the patient alive by stimulants, brandy, ether, ammonia. Possibly leeches or dry cups to the chest might aid in relieving the circulation. Enjoin the most absolute and complete repose, with the hope that the vital functions may be continued until the coagulum is absorbed or lessened, so as to permit the passage of the blood. Death often follows the most trivial exertion, such as rising out of bed. Feed the patient with abundant fluid food, milk, strong soups, and the like.

RICHARDSON suggested ammonia. He has since advised liquor ammonia in large doses, 20 minims every hour, in the hope of causing solution of the deposited fibrine, and says he has seen good results of it. Others urge the use of alkalies to favor absorption. The best that can be said of them, is that they are likely to do much harm.

Where there is evidence of obstruction in a limb or other point, nothing can be done. Rest absolute, generous diet, and sedatives for pain, is all. In case of gangrene of an extremity, amputation above the line of demarcation may save the life of the patient.

THROMBUS.

PROF. F. WINCKEL, M. D., ROSTOCK.

If the vagina be the location, plug with cotton wool or with a colpeurynter filled with ice-water. Cold to the tumor if in the labia, and ice, digitalis and opium internally, the latter to allay excitement and pain. When it ceases to enlarge, use absorbents. Do not open unless a special indication to that effect exists. Employ ice compresses, cloths soaked in warm lead water and opium, 4 drachms tinctura opii to one pound of lead water, infusion of chamomile flowers, arnica, etc.

If the tumor does not decrease, the pain is intense, and the skin gets darker, open, turn out the clots, and if the bleeding continues, fill the cavity with charpie soaked in solution of tannin, or, better, a 3 per cent. solution of carbolate of soda; lay a compress over it,

and secure with a T bandage. It is best to wait if possible until the hemorrhage has ceased before opening the tumor. General indications will be to support the system, and give quinine and acids.

Vaginal thrombus usually arises immediately during or after child-birth, and is formed in the loose tissue between the vagina and rectum, whence, however, it sometimes extends to the gluteal regions, and even to the thighs and psoas muscles. The treatment as recommended by Dr. KUCKER (*Wiener Medical Wochenschrift*, No. 52, 1878), consists in the prompt application of cold, as ice and ice water, and compression. As soon as the thrombus ceases to extend, poultices are indicated.

PROF. FORDYCE BARKER, M. D., NEW YORK.

If the thrombal tumor be not so large as to cause great pain by its pressure on the adjacent tissues, or to interfere materially with the delivery, or if laceration and escape of blood almost immediately follow the development of the tumor, apply the forceps and deliver at once. Arrest the flow of blood which usually occurs at the moment of the delivery of the head, with compresses of cotton batting saturated with a solution of the subsulphate of iron. As soon as this hemorrhage is controlled, deliver the placenta. He opposes the use of the tampon on the ground that it retains the lochial discharge, and exposes the patient to septic poisoning.

To the laceration he applies a lotion of carbolic acid and glycerine, not only as an antiseptic, but as a means of protecting the parts from excoriation by the irritating discharges of the urine and the lochia. Avoid disturbing the coagulum formed by the subsulphate of iron, so as to avoid secondary hemorrhage. As a precaution against this accident, the bladder should be evacuated for several days by a catheter.

When the tumor has attained such a size as to offer a mechanical obstacle to delivery, incise at once, remove all clots that have been formed, and then deliver by the forceps. The longer the incision is postponed, the greater will be the amount of extravasation, the greater the distension of the parts, and the more extensive the laceration of the areolar tissue.

If the laceration does not appear until after delivery, incision should not be made so long as the tumor is increasing in size. He advises that the physician should wait until after the coagulum is formed, which arrests the hemorrhage by pressure on the lacerated vessels.

PUERPERAL SHOCK.

PROF. WM. LEISHMAN, M. D., GLASGOW.

Shock to the nervous system by a tedious or severe labor may prove fatal, without hemorrhage or organic injury. As TRAVERS observes, pain of itself is destructive. This author believes it must be the pain of the second stage. The treatment is the union of an anodyne with stimulants; wine and brandy freely, till reaction is obtained, and then substituted by chicken broth. Meantime, give

274.	℞.	Mist. camphoræ,	f.℥vj	
		Ammon. carb.,	ʒij	
		Tr. opii,	gtt.lx.	M.

Dose.—Tablespoonful every one, two, or three hours. With this, she must be perfectly quiet, the room darkened, and the patient allowed to sleep as long as she can.

It is with the view to avoid the shock, the exhaustion of the second stage of labor, that the editor would urge the use of *chloral*, until the delivery can be accomplished by the employment of the forceps. The best treatment will be to prevent shock by avoiding its causes.

It would appear that *chloral*, even while producing a calm, refreshing sleep, does not by any means check the progress of labor when this has commenced. For it is invariably found that dilatation has continued, and generally so readily is this accomplished, that a speedy delivery often follows its use. The editor regards this remedy as producing results similar to those of anæsthetics in surgery, and therefore similarly indicated. Again, while it relieves the pains of travail, it thus greatly contributes to a safe and speedy convalescence. It prevents the terrible exhaustion and shock to the system too often seen to follow an unaided labor.*

* On the prevention of shock by the early use of the *forceps*, see also that subject in "Hints in the Obstetric Procedure."

PELVIC CELLULITIS AND PERITONITIS (PUERPERAL PHLEBITIS AND METRITIS).

T. G. THOMAS, M. D., NEW YORK,

Has tabulated the points of differential diagnosis between pelvic cellulitis and peritonitis as follows:

Cellulitis.	*Peritonitis.*
1. Tumor easily reached; generally felt in one broad ligament; may be felt above the pelvic brim.	Board-like feel to the vaginal roof. Tumor very high, only felt in the vaginal cul de sac; does not extend above the superior strait.
2. Marked tendency to suppuration.	Suppuration rare.
3. Abdominal tenderness in one iliac fossa.	Abdominal tenderness excessive above the brim.
4. Tumefaction laterally in the pelvis.	Tumefaction near or upon the median line.
5. Tendency to monthly relapse not marked.	Tendency to monthly relapse very marked.
6. Pain severe and steady.	Pain excessive, often paroxysmal.
7. Facies not much altered.	Very anxious.
8. Nausea and vomiting not excessive.	Nausea and vomiting often excessive.
9. Not accompanied by tympanites.	Always accompanied by tympanites.
10. Uterus fixed to a limited extent.	Uterus immovable on all sides.
11. Not necessarily displaced.	Always displaced.
12. Cause. Parturition, abortions, operations on the pelvic viscera.	Diseases of the ovaries, gonorrhea, exposure during menstruation, fluid in the peritoneum.

PROF. WM. GOODELL, M. D. PHILADELPHIA.

In *Philadelphia Medical Times*, Feb. 2., gives the following advice as to treatment:

The disease having been recognized, administer at once a full hypodermic dose of *morphia*, and from ten to twenty grains of *quinia* by the mouth. These measures, taken promptly, will often stop the disease at once.

Failing to abort the attack, we must paint the abdomen with

iodine and put on a poultice, covering it with oiled silk, or greased brown paper; it will then remain soft for twenty-four hours. The patient must have large doses of quinia. If the temperature be high she should have ten grains at a time, and from thirty to forty grains in the course of the day. Large doses of morphia must also be given. If the woman be plethoric, the morphia may be given by the mouth, with neutral mixture and wine of ipecacuanha, or in some other fever mixture. In some cases tonics are demanded. If the sickness last for more than a week, and the local tenderness increase, put on a blister promptly.

Later, muriate of ammonia is an excellent remedy in this disease; so, too, is aconite. Dr. GOODELL usually prescribes the following:

275. ℞. Mist. glycyrrhizæ comp., f.℥vj
Ammoniæ muriatis, ʒij
Hydrarg. chloridi corrosivi, gr.j
Tinct. aconiti radicis, gtt.xxiv. M.
A tablespoonful in water every six hours.

As concerns routine treatment, the patient should take plenty of milk, whisky, beef-tea, and large doses daily of dialyzed iron.

PROF. W. S. PLAYFAIR, M. D., LONDON.

The important points are relief of pain, and absolute rest. If seen at an early stage, blood taken locally by leeches to the groin or to the hemorrhoidal veins may give relief. Leeches to the uterus are likely to cause harm by the irritation of passing the speculum. Opiates in large doses, or by suppositories, or subcutaneously, are the best when the pain is at all severe. When paroxysmal, use suppositories immediately the pain threatens. When there is much pyrexia, give large doses of quinine. Keep the bowels free; nothing answers so well as castor oil, ½ a teaspoonful every morning. Warmth and moisture to the abdomen give great relief in the form of linseed meal poultices, or if these are too heavy, use spongeo-piline soaked in boiling water. Poultices may be sprinkled with laudanum or belladonna liniment. Absolute rest in the recumbent position must be enforced for some time after the symptoms abate. Then absorption may be favored by the long-continued use daily of tincture of iodine until the skin peels, or by frequently repeated blisters. This is better than keeping an open sore by irritants. When an abscess has formed and points in the groin, make a free incision, and employ antiseptics. Wait

till the pus is near the surface. In these operations, the aspirator is a valuable instrument.

Diet should be abundant, simple and nutritious. Make up for the drain caused by suppuration. Tonics, iron, quinine, and cod-liver oil, will be useful.

PROF. FORDYCE BARKER, M. D., NEW YORK.

In this disease this author directs absolute quiet in bed, and regards the danger of relapse as imminent if the patient gets up or moves much. If there be much pain in micturition, and the bladder be not thus entirely emptied, a catheter should be used. He believes that the bowels should be kept free from fecal evacuations by teaspoonful to tablespoonful doses of the compound magnesia powder, or the compound licorice powder, of the German pharmacopœia. If the pain be very acute in the commencement of the attack he usually *over*whelms it by one hypodermic injection of morphia, and relies afterwards upon opium suppositories. The lower portion of the abdomen should be kept covered by hot poultices of ground flaxseed, over which should be placed oiled silk, so that the poultice may retain its warmth for some hours. After the acute stage has passed away, cotton wool wet with laudanum and also covered with oiled silk may be substituted for the poultices. For some years he has discarded cups, leeches, and local depletion.

In the cases which assume a subacute or chronic form, he has witnessed much benefit from injections of water into the vagina as hot as can be comfortably tolerated. In the employment of these injections, the patient should lie across the bed, with the hips well over its edge and the feet upon two chairs. An India-rubber sheet should be placed well under her, between her hips and her clothing, not only to prevent the latter from getting wet, but also to conduct the water, as it flows back from the vagina, down to a vessel which is placed on the floor. Then by the use of a Davidson syringe, two or three gallons of hot water may be injected into the vagina by the nurse. A still more easy method is to have a pail with a stop-cock at the bottom, which connects with a long India-rubber tube, having a vaginal pipe at the end. This pail is placed on an elevation of a few inches above the patient, and the water is allowed to run in and out of the vagina. Not only do the patients generally derive great comfort from this warm poulticing, but if the physician immediately after makes a vaginal ex-

amination, he will need no argument to convince him what a powerful agent this is in modifying tissue.

He employs quinine at an early period of this disease, giving it in as full doses as the patient can bear without inconvenience. If symptoms of suppuration, cachexia and hectic fever, come on, he relies on quinine and alcohol pushed to the point of tolerance, as internal remedies, and on surgical means for giving exit to the purulent collection.

So soon as the least fluctuation can be detected in any part of the pelvic cavity, Prof. B. directs that it be aspirated. He considers this a safe procedure—that it gives immediate relief to pain, that it shortens the duration of the disease, and is a prophylactic measure against disorganization of adjacent tissues.

Puerperal metritis. If he finds the patient with pain in the hypogastrium, and the uterus larger than it should be at the time of the puerperal period and painful on pressure, the lochia diminished in a marked degree, or perhaps wholly arrested; or, on the other hand, a return or positive increase in the amount of blood lost in the discharge, with a quick pulse, and more or less fever, he at once gives the following powder well mixed in a wineglass of sugar and water:

276. ℞. Tully's powder,
Potass. bicarb., ãã gr.x
Hydrarg. chlorid. mite, gr.v. M.

If the skin be very hot and dry, and the pulse very hard, he may substitute the following:

277. ℞. Pulv. potass. nitrat., gr.x
Pulv. gum camphor,
Hydrarg. chloridi mitis, ãã gr.v
Pulv. Jacobi veri, gr.iij
Pulv. opii, gr.j
Vel. morphiæ sulp., gr.¼. M.

He anticipates the following effect from these powders: The pain will be relieved; nervous irritation allayed; sleep induced; fever subdued; diaphoresis promoted; and eight or ten hours after, an easy revulsive cathartic action will follow. If cathartic action do not follow in ten hours, he orders a saline cathartic.

He also directs that turpentine stupes be applied over the uterus and kept on until the patient insists on their removal, when cotton batting should be laid over the uterus, and this should be covered

with oiled silk. If the patient complains of severe pain or burning from the turpentine, the cotton may be wet with laudanum. If the disease be of a sthenic type, he has derived great benefit from the application of six or eight wet cups over the uterus, but repudiates the use of leeches as very objectionable. If after two or three days there be not evident decrease in the uterine tumor, applies a blister over the uterus. In cases in which the uterus does not undergo the usual involution, while the lochial discharge is profuse and sanguineous, he has derived advantage from the following combination:

278. ℞. Ext. ergot. fld.,
Tinct. nucis vomicæ,
Tinct. ferri chloridi, āā f.℥ss
Glycerine,
Syrup aurant. cort., āā f.℥j. M.

Sig.—Teaspoonful in a wineglassful of sugar and water every fourth hour. This usually reduces the size of the uterus, and diminishes the hemorrhagic lochia within twenty-four hours.

He also regards vaginal injections as absolutely essential throughout the whole treatment of puerperal metritis. Formerly he used Labarraque's solution of the chlorinated sodium in warm water, as strong as the patient can bear without smarting; recently he has employed the following:

279. ℞. Acid carbolic. glacial,
Glycerine, āā f.℥j
Aquæ puræ, f.℥vij. M.

Sig.—A tablespoonful in a tumbler of warm water.

If the lochial discharge be very purulent, and particularly if the odor be offensive, the injections should be used four, five, or six times a day. If the discharges be positively fetid, this author advises intra-uterine injections; and that intra-uterine injections be given with either a Scanzoni or French irrigator, or a fountain syringe, because we can thus adjust the force with which the fluid enters the uterine cavity. He believes that the fatal results which have ensued in the employment of intra-uterine injections, have accrued from their improper application. The danger seems to arise from the entrance of air into a vein, as in some cases, in which death has been sudden, or from the passage of fluid into the Fallopian tubes, and peritonitis or phlebitis has ensued.

In the suppurative and putrescent stages of puerperal metritis, our main reliance in connection with the intra-uterine injections

must be on alcohol and quinine. He prefers giving the quinine in doses from five to ten grains twice a day, instead of the smaller doses frequently repeated. The whiskey or brandy should be administered as freely as the patient can take it without any unpleasant effects.

Puerperal Peritonitis. For this disease this author regards opium as the great remedy; that it retards or arrests the peristaltic movements of the bowels, gives the inflamed parts absolute rest, pain is relieved, nervous system tranquillized, sleep secured, and thus the depression of the vital forces, resulting from the shock of the attack, is lessened. The opiate, therefore, should be given in such doses as to secure all these. The amount is only limited by the effect produced. It should be given freely until some narcotism is produced, and the respirations diminished in number, but it should not be pushed beyond this point. If the respirations fall below twelve or fifteen, and the pupil be much contracted, the opiate should be withheld until these effects pass by. This line of treatment should be pursued until the inflammation is completely extinguished.

Our author directs that we begin treatment by giving ten drops of Magendie's solution every hour, and gradually increasing the dose if the effects sought be not manifested. If the drops be rejected by the stomach, administer morphia hypodermically until the stomach will tolerate it. In some cases the tolerance of opium is remarkable. One case took 106 grains of opium and its equivalent in morphia during the first twenty-six hours, and in the second twenty-four hours 472 grains of opium.

Prof. B places also a high estimate on veratrum viride in allaying vascular excitement. In conjunction with morphia, it reduces the number of pulsations without reducing the strength or increasing the degree of vital depression.

For the pain in the abdomen and the tympanites, he applies the oil of turpentine on two thicknesses of flannel, previously dipped in hot water and wrung out as dry as possible; this to be left on as long as the patient can be induced to bear it. On taking off the flannel the abdomen should be covered with a light layer of cotton wool, at least an inch or two in thickness and wet with laudanum. The turpentine stupes should be reapplied once or twice a day, if the abdomen show a tendency to again become distended and painful, and the cotton batting with the laudanum should be reap-

plied every few hours. In cases in which the symptoms of peritonitis have in a great measure subsided by apparent localization and induration, almost forming a circumscribed tumor, our author has witnessed much benefit follow the application of a blister. He directs that it be applied in the morning, so that it can be well watched, and that it be taken off and a warm poultice applied as soon as vesication has fairly commenced. In this way the blister is well filled with serous exudation, there is very little pain or soreness, and all danger of strangury is averted.

In all cases in which the peritonitis is a complication of puerperal fever, he has found quinine an efficient remedy, especially in cases in which the chills are recurrent, or when there are symptoms indicating a tendency to purulent exudation. He prefers giving it in one or two impressive doses during the day to the small and frequently repeated doses—that is, give about five to ten grains in the morning and from ten to twenty in the evening. There is a decided tolerance to quinine in this disease. He also values alcohol in this disease. It renews the nervous forces, which are generally in a state of extreme prostration, probably by the cerebral hyperemia induced by the alcohol. In this, as in other diseases with great depression, patients are able to bear four, five, or even ten times the quantity that could be taken in health, without the least approach to intoxication. It diminishes waste, and thus tends to cause a diseased structure, in which vital changes are abnormally active, to return to its normal and much less active condition. With the whiskey or brandy he combines veratrum viride if there be considerable vascular excitement. This combination often reduces the pulse when either of these agents individually fail.

He also recommends the following vaginal injection:

280. ℞. Glycerin,
Acid, carbolic. glacial, āā f.℥j
Aquæ puræ, f.℥vj. M.

Sig.—A tablespoonful added to half a pint of warm water, and carefully injected into the vagina twice a day. If the lochia be very abundant and fetid, the amount of carbolic acid may be doubled or even quadrupled.

The food should consist of beef tea, panada, caudle, milk, and lime water.

Our author has no confidence in the aplastic properties of mer-

cury; yet in cases in which there is vomiting of bilious matter he gives ten grains of calomel well rubbed up with twenty grains of bicarbonate of sodium.

Although generally averse to venesection in this disease, he believes it is strongly indicated in some of the more sthenic cases, and employed with good results.

Stimulants should be given so soon as feebleness of the pulse, clamminess of the surface, profuse perspirations, or cold extremities, are noticed. Stimulants decrease the frequency and increase the force of the pulse.

Another important point, is nutrition. Food in a liquid form should be taken as freely as it can be digested and assimilated. Milk, eggs, gruels, beef-tea, mutton broth, chicken soup, given every two or three hours, are useful.

Purgatives, as a rule, are not desirable. Sometimes, however, when the tongue has a thick pasty coat, and there is a great deal of bilious vomiting, he gives a powder composed of from five to ten grains of calomel, and twenty grains of the bicarbonate of sodium.

PROF. F. WINCKEL, M. D., ROSTOCK.

Puerperal Metritis. He advises in this disease the horizontal posture; avoidance of all needless movements, and the use of enemata. When the abdominal pain is great, leeches may be applied to the abdominal wall; but a speedier effect is obtained by ice water, compresses, and the ice-bag. When this can be dispensed with, inunction with fifteen grains of mercurial ointment should be made every two hours until salivation occurs, or with iodide of potassium ointment, together with warm compresses. If the discharge is offensive, inject with tar-water or permanganate of potassa, and with mucilaginous fluids. Promote absorption in every way, if there is effusion. If there is pus, evacuate speedily. When the fever subsides, give diuretics and *iodide of potassium*, five grains three times a day.

PROF. WM. LEISHMAN, M. D., GLASGOW,

The most important point is to relieve pain. When above the pelvic brim, poultices and fomentations with laudanum are most grateful. When vaginal, the douche, or medicated pessaries, may be used. BERNUTZ strongly urges the use of *conium* internally. The bowels are to be kept free, and the comfort of the patient is

greatly aided by an injection of soap and water, to which turpentine may be added, given every night. Leeches to the locality may prevent suppuration. BERNUTZ insists that they should be applied directly to the uterus. Apply three at a time, and, if necessary, encourage the flow by a warm hip-bath.

In addition to the remedies already mentioned by others, when not contra-indicated, use the *perchloride of mercury*, $\frac{1}{16}$ of a grain, until faint mercurialization occurs. Iodide of potassium, or the tincture of iodine, may be used with little hesitation. Blisters may be used, but iodine is preferable, used externally, so as to continue its effects within moderate bounds for a long period.

RÉSUMÉ OF REMEDIES.

Aconite is recommended by many (F. 275). BARTHOLOW combines it with opium.

281. ℞. Tinct. aconiti rad., f.℥ij
Tinct. opii deod., f.℥vj. M.
Dose.—Eight drops in water every hour or two. This in peritonitis.

Acidum Carbolicum in vaginal injections. (F. 279, 280.)

**Ammonii Murias* is believed by many to act powerfully as a sorbefacient.

Camphora, in combination with nitrate of potassa and opium, is used by a number of practitioners. (F. 277.)

Conium is urged by BERMETZ (p. 299).

**Hydrargyrum*, either by the mouth or by inunction, is generally employed.

**Iodinium*. This remedy is highly useful, externally applied to the abdomen.

**Morphia*. In full doses, and combined with quinia, is regarded by many practitioners as the best means of treatment. (See p. 292).

BARTHOLOW says that the hypodermic injection of morphia will sometimes jugulate peritonitis, if given at the outset. If the period for such a favorable result has passed, the course and duration can be greatly modified by opium judiciously used. The quantity will be determined by the effect; the pain should be relieved, the pupils somewhat contracted.

**Potassii Iodidum*, is very useful to aid in the absorption of effusions.

Potassii Nitras is useful when the skin is hot and dry, and the pulse hard. (F. 277.)

**Quinia* must be given in large doses, and continued.

Terebinthinæ Oleum, in the form of stupes, during the acute stage, is recommended by BARTHOLOW and others.

Veratrum Viride, either alone or combined with morphia, to allay vascular excitement.

OTHER MEASURES.

Blisters favor absorption, and should be frequently repeated.

Cold, in peritonitis, is recommended in the form of the ice bag by WINCKEL and BARTHOLOW. The latter says when the inflammation is recent, the abdomen may be covered with an ice bag. It is proper to interpose a napkin between the skin and the bag.

Injections of hot water are highly lauded, especially by Prof. BARKER. They act like local poultices, and certainly are capable of great good.

Vaginal injections of carbolic acid, permanganate of potassa, and chlorinated sodium, are also extremely valuable as disinfectants and antiseptics.

Leeches applied to the groin or to the hemorrhoidal veins may be employed. Never to the uterus. BARKER discards them entirely.

Poultices are very comforting by their warmth and moisture. These may be greatly aided by the addition of laudanum, belladonna, etc.

Rest. This must be absolute, and not departed from until all danger of a relapse has disappeared.

PHLEGMASIA DOLENS.

PROF. FORDYCE BARKER, M. D., NEW YORK.

The disease tends to a spontaneous recovery, and generally disappears without serious consequences. Hence any treatment which disturbs the system or the normal functions, is objectionable. The indications are:

1. To allay the irritation of the nervous system, which can best be done by full doses of opium where there is no idiosyncrasy to prevent its use.

2. To support the system by nutritious food, stimulants and tonics. Of the last mentioned, quinine and iron hold the first place.

Only in cases where special indications exist should catharsis be induced, or cups be applied over the kidneys. In nearly all cases there is no occasion whatever for these.

After the first two or three days, the disease becomes mostly local. The patient should keep quiet, the limbs be elevated at an angle above the trunk by raising the lower part of the mattress, and where there is hyperæsthesia of the surface and pain in the deep-seated nerves, much relief will be obtained by gently rubbing the surface with a liniment like the following:

282.	℞.	Linimenti saponis co.,	f.℥vj	
		Tincturæ opii,	f.℥iss	
		Tinct. aconiti radicis,	f.℥ss.	
		Extracti belladonnæ,	℥ss.	M.

For a liniment.

The rubbing with this should be gentle and continued for fifteen or twenty minutes, and *always toward the trunk.* This may be repeated every six hours, after which the leg should be enveloped in cotton batting and covered with raw silk.

After the period of acute tension, the leg should be examined for localized phlegmon, and if any circumscribed collection of pus be discovered, it should be evacuated at once; otherwise the tonicity of the tissues will best be promoted by applying a roller bandage, beginning at the toes and carrying it up the whole length of the limb. This should be worn so long as there is any tendency to œdema of the foot and leg. The patient should not be

permitted to walk until all evidence of local disease has disappeared.

PROF. W. S. PLAYFAIR, M. D., LONDON,

Agrees in the main with the treatment above recommended. For the relief of the pain, he has found one of the best measures to be wrapping the entire limb in linseed meal poultices, or in warm flannel stupes, the surface of which may be freely sprinkled with laudanum, chloroform, or belladonna liniment. Blisters, leeches, or any form of counter-irritation or abstraction of blood, he does not approve of. Internally he thinks chlorate of potassa, with dilute hydrochloric acid, quinine, ammonia, and iron, are the drugs most likely to prove of service. As an anodyne, generally nothing answers so well as the hypodermic injection of morphia.

At a later stage, support with a roller may be combined with gentle inunctions of weak iodine ointment. And shampooing or rough friction of the limb should be avoided, on account of the danger of producing embolism. The occasional use of the electric current is said to promote absorption.

PROF. F. WINCKEL, M. D., ROSTOCK.

The leg must be raised a little higher than the thigh, and the knee flexed; the foot and calf supported by pillows to prevent the rotation outward; apply compresses of lead-water; rub over the skin about Poupart's ligament a piece of unguent. hydrarg. the size of a bean, three times a day. If the pain is acute add laudanum to the lead-water. Open any vesicles that may form, and evacuate the serum. When the pain and swelling subsides, paint with tinct. iodine or Lugol's solution, and cover with wet compresses; bandage the leg to produce reduction.

BŒR claims good results from a blister the width of two fingers around the thigh just above the knee.

A proper support of the limb will be required when the patient leaves the bed.

MILK FEVER.

This affection, formerly so much dreaded, and believed so frequently to occur on the third day, on the occasion of the appearance of the milk, is now reasonably regarded as virtually a myth. In many instances, a slight increase of heat, pulse, etc., occurring at the time when the secretion of the milk commences, is regarded as a true form of fever, and treated with so much energy as frequently to induce a real disorder more or less serious. The best authorities now agree that the better regimen allowed to the lying-in woman, and the more sensible mode of conducting labor which at present has become the practice, prevents many of these abnormal tendencies.

PLAYFAIR, WINCKEL, GRÜNEWALL, D'ESPINE, and others, agree in this belief, or regard the fever as a mild septicemia. GRAILLY HEWITT believes that it only occurs where the patient is weakened either by a prolonged and exhausting labor, from hemorrhage, or from insufficient nourishment.

PROF. FORDYCE BARKER, M. D., NEW YORK,

Regards it as an exceptional incident of child-bed, and gives the following prophylactic measures:

Secure to the patient some hours of sound and refreshing sleep immediately after delivery.

Give such food as will be abundantly nutritious, without overtaxing the digestive organs.

Apply the child to the breast as soon as the patient has recovered from the exhaustion of labor.

When the symptoms of milk fever present themselves, if the bowels have not been fully moved, give a saline laxative; subdue vascular excitement, and promote diaphoresis. The following is very effective:

283. ℞. Tinct. aconit. rad., gtt.xx
Antimonii et potassæ tartratis, gr.ij
Spirit. etheris nitrici,
Syrupi simplicis, āā f.℥j
Aquæ aurantii flor., f.℥ij. M.
A teaspoonful in a wineglassful of sugar and water every two hours.

Have the nurse gently but thoroughly rub the breasts from the

circumference toward the nipple with warm sweet oil every two hours till the distention has subsided, allay pain and nervous irritability, and secure sleep by a diaphoretic anodyne, as eight to ten grains of compound ipecac. powder or of Tully's powder.

PROF. KARL SCHROEDER, ERLANGEN, AND PROF. W. LEISHMAN, M. D., GLASGOW,

Agree that the milk fever is due to the distention of the breasts, and regardless of the amount of fever, these organs demand prompt attention, as by keeping them soft, frequently emptying them, applying evaporating lotions, relieving the dragging, etc., by suspending the inflamed gland; in short, by removing the cause, the fever itself is removed.

PUERPERAL CONVALESCENCE.

PROF. FORDYCE BARKER, M. D., NEW YORK.

During this period, the chief indications are: First, the restoration of the pelvic organs to their normal condition, and the development of lactation. The accomplishment of the first in the multiparæ is usually attended with uterine contractions of an intermittent character. Our author thinks much can be accomplished by way of preventing their occurrence; that they are usually the result of coagula in the cavity of the uterus which distend its walls, and excite spasmodic contractions. The retention of these may be obviated by firm pressure over the fundus during the time the trunk of the fœtus is being expelled, and maintained until the placenta is delivered, and a permanent contraction of the uterus is secured. If the second stage is too rapid, or too prolonged, he gives a teaspoonful of the fluid extract of ergot, just as the delivery of the child is taking place. If the after-pains come on a few hours after the delivery, the first pressure should be renewed so as to expel coagula. It often gives relief. At a late period this must not be attempted, for fear that it may excite irritation and inflammation. He then relies on the following formula, known as Tully's Powder:

284. ℞. Pulv. g. camphor,
Cretæ pp.,
Pulv. glychrrh., āā ℈j
Morphiæ sulph., gr. j. M.

Dose.—The same as Dover's powder.

The severe after-pains sometimes occurring a day or two after labor, and excited by the pressure of flatus, must not be confounded with peritonitis. This diagnosis is easily made; while a slight touch causes pain, the pain entirely disappears upon continued pressure; it returns as soon as the pressure is removed. On the other hand, the pain due to peritonitis will be increased in ratio to the pressure made. After-pains due to flatus are most speedily relieved by turpentine stupes and turpentine enemata. Sometimes after-pains of a purely neuralgic character are encountered. They do not yield to opium in its fullest doses, but are relieved by quinine and chloroform liniment. He gives the quinine in doses from

five to ten grains, night and morning, and applies the liniment by saturating a piece of flannel of double thickness. The formula for the liniment is

285. ℞. Chloroformi, f.ʒj
Liniment. saponis co., f.ʒvj. M.

RETARDED INVOLUTION.

If the uterus can be felt above the pubes a few days after parturition, our author prescribes the following:

286. ℞. Ext. ergot. fluid.,
Tinct. nucis vomicæ,
Tinct. ferri chloridi,
Tinct. cinnamom cort., āā f.ʒj. M.
Sig.—Teaspoonful in a wineglassful of sugar and water, four times a day.

LAXATIVES FOR PUERPERAL WOMEN.]

PROF. DR. FORDYCE BARKER, M. D., NEW YORK.

Our author opposes the indiscriminate dose of castor-oil, and very truthfully states that it often excites hemorrhoids. He highly recommends the following pills:

287. ℞. Ext. colocynth co., ℈j
Ext. hyoscyami, gr.xv
Pulv. aloës soc., gr.x
Ext. nucis vomicæ, gr.v
Podophyllin,
Pulv. ipecacuanhæ, āā gr.j. M.
Ft.—Pil. no. xii.

Two of these usually secure the desired evacuation of the bowels. One of these may be taken daily to keep the intestinal canal free from fecal accumulations.

When there are flatulence and severe after-pains in consequence of constipation, he recommends the following:

288. ℞. Ext. sennæ fluid.,
Syrup. zinziberis, āā f.ʒvj
Tinct. jalap, f.ʒss
Tinct. nucis vomicæ, gtt.xl. M.
Sig.—A tablespoonful in a wineglassful of sugar and water.

Diet.—Our author very positively dissents from the formerly pursued plan of restricting the diet of the parturient woman to to astand tea. He very judiciously remarks that at this epoch of maternity, her wearied and exhausted system, with the additional

taxation of lactation, requires food to meet the new demand for the nourishment of her offspring, and to restore her own strength and vigor. He further objects to the application of any arbitrary rules to all women, and enjoins the necessity of individualizing each case and adapting the diet to the various conditions of the patient. Some are very much benefited by an immediate restoration to their former diet, while others need more restrictions, and he adaptation of the diet to the various pathological conditions evinced. It should, however, in all cases be as abundant as the digestive organs can digest, and the assimilative organs can appropriate without inconvenience, and of nutritious quality.

CHAPTER III.

DISEASES OF THE MAMMARY GLANDS AND OF LACTATION.

Mastitis; Inflammation of the Breasts—Mammary Tumors—Mammary Neuralgia (Mastodynia)—Galactorrhea—Agalactia and Oligalactia—Diseases of the Nipple.

MASTITIS AND MAMMARY ABSCESS.

PROF. FORDYCE BARKER, M. D., NEW YORK.

This author endeavors to abort the abscess by *tincture of iodine* painted over the inflamed breast.

If unsuccessful in this he applies, over the breast, bread and milk or linseed meal poultices as hot as can be borne. Usually he prefers warm water dressings made by soaking two folds of lint in warm water, and these covered over by oiled silk.

He denounces the routine practice of rubbing the breast in mastitis as absolutely pernicious.

As soon as the abscess points and the fluctuation can be detected, it should be opened in the most dependent point, carefully avoiding, however, the areola.

To relieve pain and procure rest, he gives ten grains of Dover's or Tully's powder.

When there is an epidemic or endemic tendency, he avoids all depressing agents and gives full doses of quinine.

In the treatment of the sub-glandular form the same general principles should govern us as to constitutional measures, as in the subcutaneous variety.

He has no confidence in any topical treatment. The sole remedial measure of value, is to secure the early discharge of the pus by incision. If the conditions of the case will admit of an election, the opening should be made at some inferior point in the circum-

ference of the breast, so as to prevent secondary inflammation of the glandular structure or of the subcutaneous areolar structure. Sometimes the signs of sub-glandular abscess existed, but no fluctuation; he has detected the presence of pus by lifting up the gland from the thorax and passing between them an exploring needle. He then makes a sufficiently large incision with a long tenotomy knife. But if the abscess point on the anterior surface, then the opening must be made where the fluctuation exists, and care must be taken to prevent its closure before the pus is all discharged, by the insertion of a tent.

Glandular inflammation or mammary adenitis presents two types; one rapid in its course, in the other the inflammatory processes are in tardy succession. In the former, resolution may be secured in a month; in the other, the period of several months may be required.

The first requires vascular sedatives, saline laxatives, anodynes and an antiphlogistic regimen; while in the other, tonics, stimulants and nutritious diet are indicated. Nursing must be forbidden, as the pain and excitement thereby produced will aggravate the inflammatory condition. If, however, the secretion of milk be active, accumulation of this fluid must be avoided, the breast must be disgorged by artificial means. Rub the breast with the hand lubricated with sweet oil until the breast is soft and all nodulated indurations have disappeared. To prevent the return of the lacteal engorgement, he then covers the breast with the extract of belladonna, softened with a little glycerine. If these means do not secure resolution, the abscess must be opened when the presence of pus is determined. Then by adhesive straps applied so as to support the breast and firmly compress it from circumference to the centre, he secures the relief of engorgement of other lobules, the removal of indurations, the prevention of purulent infiltration into the adjacent areolar tissue, and the formation of obstinate fistulous sinuses.

PROF. W. S. PLAYFAIR, M. D., LONDON,

Urges that much may be done to prevent abscess by removing engorgement of the lacteal ducts when threatened, by gentle hand friction with warm oil. Combat feverishness by gentle salines, minute doses of *aconite*, and large doses of *quinine*, and relieve pain by opiates. Confine the patient to bed, and support the breast by a

suspensory bandage. Warmth and moisture are best to relieve local pain, as hot fomentations, light linseed meal poultices, or bread and milk; and the breast may be smeared with extract of *belladonna* rubbed down with glycerine, or the belladonna liniment may be sprinkled over the poultices. Generally the pain produced by nursing is so great as to prevent the child being put to that side, and the tension must be relieved by poultices. When pus forms, remove it as soon as possible; nothing is to be gained by waiting till it nears the surface; delay leads to greater spread of the disease.

The antiseptic method of operation should always be employed, as thus, in place of weeks or months, the abscess will be closed in a few days. Mr. LISTER's method is so perfect that no more can be desired. "A solution of one part of crystalized carbolic acid in four parts of boiled linseed oil, having been prepared, a piece of rag from four to six inches square is dipped into the oily mixture, and laid upon the skin where the incision is to be made. The lower edge of the rag being then raised, while the upper edge is kept from slipping by an assistant, a common scalpel or bistoury dipped in the oil is plunged into the cavity of the abscess and an opening about ¾ of an inch in length is made, and the instant the knife is withdrawn, the rag is dropped upon the skin as an antiseptic curtain, beneath which the pus flows out into a vessel placed to receive it. The cavity of the abscess is firmly pressed, so as to force out all existing pus as nearly as may be (the old fear of doing mischief by rough treatment of the pyogenic membrane being quite ill-founded); and if there be much oozing of blood, or if there be considerable thickness of parts between the abscess and the surface, a piece of lint dipped in the oil is introduced into the incision to check bleeding and prevent primary adhesion, which is otherwise very apt to occur. The introduction of the lint is effected as rapidly as may be, and under the protection of the antiseptic rag. Thus the evacuation of the original contents is accomplished with perfect security against the introduction of living germs. This, however, would be of no avail unless an antiseptic dressing could be applied that would effectually prevent the decomposition of the stream of pus constantly flowing out beneath it. The following may be relied upon as trustworthy; about six teaspoonfuls of the above-mentioned oil are mixed with carbonate of lead to the consistence of a firm paste; it is, in fact, glazier's putty

with the addition of a little carbolic acid. This is spread upon a piece of common tin-foil, about six inches square, so as to form a layer about a quarter of an inch thick. The tin-foil is placed upon the skin so that the middle of it corresponds to the position of the incision, the antiseptic rag being removed the instant before. The tin is fixed securely by adhesive plaster, the lowest edge being left free for the escape of the discharge into a folded towel placed over it, and secured by a bandage. The dressing is changed once in twenty-four hours, but if the abscess be large, it is prudent to see the patient twelve hours after it has been opened, when, if the towel be much stained with discharge, the dressing should be changed to avoid subjecting its antiseptic virtues to too severe a test. After this one daily dressing is enough. The changing of the dressing must be done as follows: A second piece of tin-foil is spread with the putty, a rag is dipped in the oil and placed on the incision the moment the first tin is removed. This guards against the possibility of mischief occurring during the cleansing of the skin with a dry cloth, and pressing out any discharge which may exist in the cavity. If a plug of lint was introduced when the abscess was opened, it is removed under cover of the rag, which is taken off at the moment when the new tin is applied. The same process is continued daily until the sinus closes."

In long continued suppuration, methodical strapping of the breast with adhesive plaster, so as to afford steady support and compress the opposing surfaces, will be best. The sinus may be laid open, or injected with tincture of iodine or other stimulant. Support the system with food, stimulants, iron and quinine, as indicated.

PROF. F. CHURCHILL, M. D., DUBLIN.

Bleed if the fever is high, or leech and follow with a large soft poultice or fomentation. A convenient and simple mode of applying warmth, is to immerse a wooden bowl in hot water, and having wrapped some flannel around the breast, place it in the bowl. Purge briskly with salines, to which add a little *tartar emetic*. The latter may be continued in doses of one-sixteenth grain every hour, to induce slight nausea, and generally in twenty-four hours the symptoms are mitigated, and the breasts smaller and softer. Diet bland and fluid. If an abscess is unavoidable, favor it and open early

J. S. PARRY, M. D., PHILADELPHIA,

At the Philadelphia Hospital, urged the use of a fever mixture with *ipecacuanha*, or even tartar emetic, in a dose large enough to nauseate. This would be followed by relief of pain, fall of temperature and pulse. Where the subcutaneous areolar tissue is involved, *iodine* and astringent lotions are very useful. Put the iodine on freely, and then cover the treasts with cloths wet with *acetate* of *lead* lotion and *opium*. Give narcotics for pain and sleep. Dr. P. believes that rubbing the breast is an irrational process, and that milk accumulated in the breasts is not injurious. It is not a cause of mastitis. He would delay opening the abscess when formed, and the popular idea that an abscess should "be ripe" before it is opened, is not entirely without foundation. He waits until the pus has approached the surface, and is almost ready to open spontaneously.

Where sinuses form, carry a stick of nitrate of silver to the bottom, and leave it there, or inject iodine, sulphate of zinc, or copper.

Q. C. SMITH, M. D., CALIFORNIA.

289. ℞. Olei lini. f.℥iv
Chloral hydratis, ℥ss.

Powder the chloral very fine, then mix it thoroughly with the oil. Apply, spread thickly, on a piece of soft woolen flannel, a little larger than necessary to cover the breast, with a central opening through which the nipple may protrude.

Apply as *warm* as can be borne, and keep warm whilst it remains applied by warmed sacks of chamomile flowers or hops. The plaster should be renewed every four to six hours, until all pain, swelling and induration are relieved. (*Pacific Medical Journal*, May, 1878.)

In *acute mammitis*, a number of observers have reported striking success with the *poke root:*

290. ℞. Fluidi extracti phytolaccæ, q. s.
Twenty drops every three hours.

Others have seen benefit from:

291. ℞. Tincturæ belladonnæ,
Tincturæ digitalis, āā f.℥j M.
Ten drops every three or four hours.

In *chronic mammitis*, Prof. HUNTER MCGUIRE, M. D., of Richmond, Va., condemns (*Virginia Medical Monthly*, September, 1875), the severe and needless practice of slitting up the sinuses, or of injecting them with stimulating fluids. Nearly every case can be cured by *proper bandaging* with adhesive plaster.

Cut the plaster into strips from four to six inches in length, and from a half to three-quarters of an inch in width, according to the size of the breast. After warming the plaster, apply one end of a strip to the circumference of the gland, near the axilla. Take another strip of the same length and width, and fasten its end to the inner circumference of the breast, near the sternal bone. The ends of the two strips of plaster thus applied are held in place by an assistant, while the surgeon takes the free extremities of the strips, and drawing them toward each other, that is, drawing the breast from its circumference toward its centre, crosses the strips and fastens them. Two more strips are then applied just below, and lapping slightly the first two pieces. Continue in this way till the whole breast is covered (somewhat upon the same principle and manner that we use strips in an indolent sore on the leg), leaving the nipple and fistulous orifices uncovered. A piece of moistened lint is placed over the sinuses to catch the pus which escapes.

ASHBURTON THOMPSON, M. D., LONDON,

Speaking of mammitis (*Medical Times and Gazette*, January, 1875), mentions two modes of treatment, (1) the administration of *tincture of aconite*, and (2) the total abstention from fluids during the necessary number of days. By giving minim doses of aconite every hour, he had succeeded in cutting short inflammations of the breast which there was no doubt would otherwise have run on to suppuration very frequently; indeed, in three cases out of four. In cases of still-birth he had hitherto found abstention from fluids sufficient in every case to avoid every kind of mammary disturbance. Ice was allowed in moderate quantity, and no other fluid, from the time of delivery until the fourth or fifth day, when the breasts generally return to their normal state of quiescence. The deprivation of fluid caused but little distress.

JOHN B. C. GAZZO, M. D., THIBODAUX, LA.,

In *Med. and Sur. Reporter*, May 6, 1876, gives his treatment as light diet, alteratives, and tonics, a compress moistened with the

linimentum, ammoniae iodidi et chloroformi applied to the breast as high as the axillæ, carefully enveloping the diseased mammæ, covering the compress with oiled silk, and keeping the whole in a suspensory bandage; during the first day renew the application once in two or three hours. This proceeding must be repeated every day until the swelling disappears, which is, usually, the second or third day. The liniment of chloroform and iodide of ammonia should be applied the moment that pain and engorgement of the mammary glands manifest themselves; it will then act as an abortive in suppressing incipient pain, and thereby prevent the inflammation which threatens the mammary structure. The inflammatory period of the mammary is not only shortened, but the entire duration of the disease is diminished by at least one-half. After the large, heavy and inflamed mammæ become perfectly flaccid, completely cool, and the flow of milk begins anew, allowing of the freest handling, omit the application. The only inconvenience attending it is the irritation produced upon the skin; this, however, is more than compensated for by the derivative action of the iodide of ammonia and chloroform upon the inflamed breast, which will very often, in all probability, prevent abscess and suppuration.

In addition to appropriate medical remedies, the following prescriptions were employed with the happiest results; the first, an excellent detergent and purifier of the blood, preventing the formation of matter within the glandular system; and the second, a tonic in restoring the mucous membranes.

292. ℞. Potassæ chlorat., ℥ij
Aquæ destil., f.℥viij
Acidi. hydrochlorici, gtt.xxx
Syrupi aurantii, f.℥iij. M.

Sig.—One tablespoonful every two hours.

293. ℞. Cinchonæ sulph., ℥ij
Quiniæ et ferri citras., ℥iij
Tinct. ferri. chloridi, f.℥ij
Syrupi sennæ, f.℥vij.

Sig.—One tablespoonful three times a day, after diet or meals.

The liniment of iodide of ammonia is prepared as follows:

294. ℞. Iodinii, ℥iij
Ammoniæ iodidi, ℥ij
Chloroformi,
Olei olivæ, āā f.℥x
Glycerinæ, f.℥v. M.

Dissolve the first two by rubbing in the chloroform; then add the olive-oil and glycerine.

C. B. KEIPER, M. D., INDIANA.

The first fifteen years of practice he used belladonna poultices, and so forth. Now and then he would have a suppurating breast; and in cases that did not suppurate, it would require from six to ten days to subdue the inflammation.

In the last fifteen years he made no other applications than cold water and *muriate of ammonia;* two ounces of *muriate of ammonia* to a half gallon of cool water. Where ice cannot be had, put the solution in a tin bucket, and place this bucket in another one of cool water, so as to keep it at a low temperature (in city practice ice may be employed); then take two pieces of cotton goods, each about twenty inches square, and double each one four times, and then cut a hole in the centre about two inches in diameter, so as to protect the nipple, and dip these in the solution, and apply to the parts affected; removing every twenty minutes, to immerse anew in the solution. This continue till the inflammation is subdued, which generally requires from one to three days.

HUGH MILLER, M. D., OF GLASGOW.

In cases where acute congestion occurs in the mammary glands when commencing to secrete, this author (Edinburgh *Med. Journal*, December, 1877), employs with great success a preparation of *belladonna.* It is an alcoholic extract of double the usual strength, kept fluid by collodion. Camphor is combined with it for the purpose of aiding to arrest the natural mammary secretion. This preparation is painted on the breasts much in the same way that you would use blistering fluid. No rubbing in is necessary. The fluid dries quickly, is much more cleanly for the patient, has a less offensive odor than the ointment, and in his experience, it is more reliable in its action.

This liquid preparation is painted over the affected parts of the breast night and morning, until the acute symptoms give in. Indeed, it can only be of service as a good local sedative when the free and frequent application of it to the affected part has been persevered in until decided results are secured. He has used this preparation with very satisfactory results. Whether the inflammatory irritation accompanying the onset of the lacteal secretion had for its exciting cause exposure to cold, inflamed nipples, or obstruction in the lacteal ducts, the preparation has always seemed to be of value. He has also used the preparation beneficially by

applying it to both breasts every day when the mother did not intend to suckle her child: and is satisfied that it may be safely relied upon for restraining the secretion of milk, and acting on the walls of the arterioles so as to prevent engorgement. It has the advantage over the old plan of evoporating lotions, in that it is more cleanly, and is more comfortable to the patient. When the remedy is employed to prevent the secretion of milk forming at all, it is best to begin applying the liquid immediately after the birth of the child.

EDGAR KURZ, M. D., OF TÜBINGEN.

In the lying-in hospital at Tübingen, this author treated the very frequent cases of commencing mastitis in the following manner: When the breast is tense with milk and becomes hard and sensitive, it frequently suffices merely to restrict the diet of the patient, and to remove the superabundant milk by nursing several children, or drawing it out with one of the various appliances devised for the purpose, or by gently expressing it. When the affection has advanced a step farther, and the breast is much swollen and lumpy, and the skin reddened, and suppuration appears imminent, it is necessary to adopt energetic measures. The diet is still more restricted, laxatives are given, the breast is securely bound up by a cloth, without, however, exerting compression, which is suitable only for chronic cases, or the residual nodosity following acute mastitis. The *main point* of the treatment is the *application of cold*, which in light cases consists merely in iced compresses; in severe cases in the unremitting application of a bladder filled with ice. The often intolerable pain, which is increased by compression, yields rapidly to this treatment; the tension decreases, suppuration is prevented, and in a few days even mastitis may be cut short in this manner. During two years of this treatment, not one case of mastitis terminated in suppuration, whilst under compression it frequently occurred.

PROF. F. WINCKEL, M. D., ROSTOCK.

Applies dry heat if very acute pain persists after the use of compresses of cotton batting, cold compresses, or the ice-bag. When headache is severe and the tongue coated, he gives large doses of *iodide of potassium* To reduce the thickness of the skin and expedite the evacuation of pus, he paints with iodine. Evacuate pus promptly.

When a portion of the gland is tender, swollen, and the surface red, give the breast as much rest as possible, by less frequent nursings, or entire cessation on that side. Use compresses, wet with lead water, night and day, renewing them every few minutes, supporting the breast. Keep the bowels free. Continue until the nodules disappear, or alternate the lead with tincture of iodine, if there is reason to believe that an abscess is forming. Pointing of pus is thus hastened. A plaster of Paris bandage applied to the breast is excellent after evacuation of pus, as it insures uniform compression of the gland. Change it every two or three days. Other methods have been employed, but this should completely supersede the use of warm poultices.

To remove any lacteal nodes, mercurial ointment or iodide of potassium may be rubbed on, or the parts covered with emplast. saponis., emplast. cicutæ, or emplast. melliloti, and iodine, given internally, the child having been weaned.

J. L. POWERS, M. D., REINBECK, IOWA.

This writer, in the *Medical Brief*, October, 1878, uses tobacco salve spread upon drilling, the size of the breast, with a hole in the centre for the nipple.

Internally, when inflammatory symptoms are marked:

295.	℞.	Spt. ether. nit.,	f.℥ss	
		Tr. veratri virid.,	f.℥ss	
		Aquæ,	f.℥iij.	M.

Teaspoonful every hour or two, until it produces a sedative effect, and then less frequently.

With concentrated tincture of phytolacca, fifteen to twenty drops, and this used persistently, he believes an abscess may be avoided.

RÉSUMÉ OF REMEDIES.

Acetum. The application of a cloth wrung out in hot vinegar, which is then covered with a bowl moderately heated, is a popular means of aborting threatened inflammation of the breasts.

Aconitum, in minim doses of the tincture, is recommended by Dr. THOMPSON (p. 314).

Ammonii Murias, as a resolvent local application, has been found very efficient (p. 316).

**Belladonna.* In recent induration and inflammation of the breasts, remarkable effects are produced by belladonna in arresting the secretion of milk. Either as plaster or ointment, or also internally, its use should not be omitted.

Chloral is applied locally by Dr. Q. C. SMITH (F. 289).

Conium. In chronic engorgement or hyperplasia of the breasts, the prolonged use of conium internally has a decided influence in reducing the size.

Digitalis in inflammatory states may sometimes be advantageously combined with belladonna (F. 291).

Ergota moderates the secretion of milk, and has been used to prevent mammary abscess and engorgement of the breasts during weaning.

Iodinii Tinctura, in the chronic forms of engorgement, is a valuable resolvent.

Petroselinum. Freshly bruised parsley leaves are a popular remedy in commencing mammary inflammation at the beginning of lactation.

**Phytolacca Decandra,* is known popularly as the "garget weed" and is extensively used for garget (mammary inflammation) in cows. Considerable evidence has been adduced that it possesses equal value in the human female. It is given in doses of gtt.xx of the fluid extract of the root every three or four hours (*Am. Jour. Med. Sciences,* 1873, p. 275; *Med. and Surg. Reporter,* Jan., 1875). Dr. J. G. ALLEN, states (*Am. Jour. Obstetrics,* Oct., 1879), that it is not of value where the mammitis begins at the nipple or only involves small lobes of the gland; but where the whole or a large portion is swollen and congested, and in the condition of congestion that sometimes results from an attack of ephemeral fever, the phytolacca is almost a specific.

Plumbi Acetas. Dr. HUEBNER, of Dresden, recommends the constant application of lukewarm lead-water in compresses, followed, if required, by strapping of the breast and free incision.

Plumbi Iodidum. The discutient powers of this agent may be advantageously called into play in chronic engorgement of the mammary glands.

Stramonium. The fresh leaves of stramonium, made into a cataplasm and applied externally, have been found successful for discussing indurated lacteal glands in the breasts of nurses (PHILLIPS).

Tabacum, in the form of ointment, gr.xxx to lard ℥j, has long been used in some parts of this country as a domestic application to inflamed and "caked" breasts.

GENERAL MEASURES.

Cold. Some writers are very positive in praise of cold applications in threatened inflammation of the mammary gland. Pounded ice is placed in a bag and laid directly upon the gland, to be renewed from time to time. The pain and swelling is said to abate promptly, "within an hour," and in a few days the inflammatory action has quite disappeared (see p. 317).

Compression is highly praised by most authorities (see pp. 310, 312, 314, 318). Dr. KOENING says that in *mammary lymphangitis* it is "infallible." The method which he employs (*London*

Med. Record, April, 1877, is the following: The diseased breast is covered with a layer of cotton wool, and a bandage is applied which is known in minor surgery as the bandage of Mayor, or the triangular bonnet of the breast. The form of the bandage is a triangle, a yard in length from one extremity to the other, and fifty centimetres (nearly twenty inches) from the apex to the base. The base of the triangle is placed obliquely under the diseased breast, then one of its extremities is directed under the corresponding armpit, and the other over the opposite shoulder, and there united behind the shoulder-blade. The apex of the triangle is then lifted in front of the diseased breast, it is carried over the corresponding shoulder, and firmly fixed behind.

Sometimes a linseed poultice is at the same time applied on the inflamed part.

The effects of treatment thus arranged are almost marvelous; the pain is immediately calmed, the inflammatory redness, and the œdema are diminished at the end of a very short time.

Heat is more popular than cold as a means to effect resolution. Hot vinegar, lead-water, etc., warm poultices, heated bowls or plates, etc., are familliar applications, and often successful.

MAMMARY TUMORS.

DIAGNOSTIC POINTS.

The diagnosis of mammary tumors is confessedly difficult. We give from various surgical authorities a few points to serve as diagnostic landmarks.

1. *The tumor presents itself as a small nodule in the breast.*

It may be merely a benign chronic mammary tumor (adenoma), or the beginning of sarcoma, or scirrhus.

Adenoma.	*Sarcoma.*	*Scirrhus.*
Patient under thirty and single.	Patient any age.	Patient over thirty.
Tumor dense, but elastic and movable under the skin, and movable on the deeper part of the breast.	Tumor elastic and movable, but rapidly involving the surrounding tissues.	Tumor hard, and attached to the deeper part of the breast, though at first movable beneath the skin.
Pain, if present, of a neuralgic character, and worse at the menstrual period.	Pain not severe as a rule.	Pain severe, and of a sharp, lacerating character, and shooting down the arm.
Skin and lymphatics never involved.	Skin eventually involved, but no lymphatic enlargement.	Both skin and lymphatics involved early.
Grows very slowly, and varies in size.	Grows very rapidly, and apt to recur locally.	Grows rapidly, except in old people.
Nipple not retracted.	Nipple often exudes fluid.	Nipple often retracted.
No family history.	No family history.	Often hereditary.

Of these signs, the enlargement of the lymphatic glands of the axilla and neck is the most important point in the diagnosis of scirrhus.

Adenoma generally occurs in the breasts of young, healthy women, during their period of developmental perfection. Among married women it often occurs among those who are suckling. It usually grows slowly, and as it enlarges, pushes the breast aside; it never infiltrates it. It may grow to a great size, and stretch the skin even to the point of rupture; but the skin is never infiltrated, nor the tissues beneath. The tumor is encapsuled, and usually movable, and can be readily turned out. It is never associated with any secondary glandular enlargement.

2. *The tumor is elastic.*

Its contents should be drawn to the extent of a drop or two by a needle, and examined. If the fluid proves to be:

(*a*) *Pus*, the case is one of abscess.

(*b*) *Milky fluid*, it is galactocele.

(*c*) *Clear fluid*, it is simple cyst.

(*d*) *Dark fluid*, it is compound cyst or sarcomatous cyst.

(*e*) *Clear fluid containing microscopic hooklets*, it is hydatid.

3. *The tumor is large, elastic, and rapidly growing.*

It may be:

Encephaloid Cancer.	*Benign Cystic Growth.*
No cysts present.	Cysts present.
Lymphatic enlargement in the axilla and neck.	No lymphatic enlargement.
Skin infiltrated and thickened, often with small flattened nodules. Veins enlarged.	Skin stretched and thin, so as eventually to give way. Veins about natural.

Hysterical Breast. This is a rather rare affection. Its invasion is often sudden, and the malady rapidly reaches its maximum of intensity. It is ushered in by a sense of uneasiness and formication, which is soon transformed into lancinating pains, becoming almost intolerable. In some cases the skin is changed, in others it becomes red, hot and swollen, and remains so till the end of the exacerbation. In the meanwhile, the gland enlarges to an enormous size. The ovaries are sometimes in sympathy. This condition lasts from one to three days. These troubles generally coincide with the period of menstruation or an hysterical attack.

PROF. SAMUEL D. GROSS, M. D., PHILADELPHIA,

Considers the great object of the constitutional treatment in carcinoma, as the maintainance of the general health as near the normal as possible, and the best means are a proper regulation of the diet, bowels, and secretions, the avoidance of pain, plenty of sleep, and a contented mind. The diet should be that which agrees with the stomach, and affords the best nourishment in the smallest compass. The plethoric should have farinaceous food principally, while the anemic require meat, and even malt liquors or stimulants.

Pain may be allayed by anodynes in suitable doses. A hot, dry skin requires pulvis ipecacuanhæ comp. and a few grains of blue mass; change of air and scene, as to the sea coast, are often beneficial. Specifics fail to cure, though they often improve the health.

Of these we have quinine, bark and iron, as the best. *Arsenic* is useful, and the best form is the iodide, 1-16 of a grain three times a day.

The topical treatment should be suspension of the organ, and the removal of all pressure. Leeches may be applied when there is inordinate vascular excitement, especially if the patient is plethoric, and the flow of blood may be encouraged for some hours by cloths wrung out of hot water. Afterwards the parts may be kept wet with lotion of acetate of lead, and opium. Light emollient poultices are useful, and may be medicated with lead, opium, dilute tincture of iodine, etc. Anodyne plasters of opium, cicuta, stramonium and belladonna, are comforting. The soap, compound galbanum and DeVigo's plaster, are useful if well sprinkled with morphia.

When ulceration occurs, the indications are to moderate discharge, prevent hemorrhage, relieve pain, allay fever, and sustain the strength. Here we may use subsulphate of iron, anodynes, Labarraque's solution, or permanganate of potassa, frequent ablutions and good diet, with stimulants. If there is copious hemorrhage, acupressure may be employed.

Excessive swelling of the arm may be relieved by the roller bandage and steady elevation of the limb. (The strong elastic bandage will in these cases be found of very great value.—ED.)

Itching of the skin may be relieved by zinc ointment and Goulard's extract.

Mammary hypertrophy may be met by iodine, externally and internally; gentle and protracted ptyalism; the steady and persistent exhibition of chloride of ammonia, 10–20 grains three times a day; the relief of weight and tension. Extirpation must be employed if the tumor is large and the health is failing.

Milk tumors should be injected with a stimulant, as dilute tincture of iodine, and the seton or tent may be employed, with care that the inflammation does not run too high. When the tumor is solid, it may be excised.

(We have seen a number of such tumors, and have invariably advised non-interference, and have never known bad results to follow.—ED.)

Serous cysts will sometimes disappear under the steady use of discutients, as a strong solution of chloride of ammonia, or equal parts of alcohol and spirit of camphor, with a small quantity of

Goulard's extract. Or a cure may be effected by the seton, tent, or iodine injections. When the cyst is old, large, or partially solidified, excision is necessary.

The only remedy for *hydatid* tumors is excision. Relapse does not occur.

For *fibroid* and *adenoid* tumors, sorbefacients and compression, with iodine internally, may be tried in the earlier stages; afterwards excision is the only reliable means.

PROF. JAS. Y. SIMPSON, M. D., EDINBURGH,

In speaking of *carcinoma* of the *mamma*, says the two serious objections to the knife are, the probability of a relapse, and the danger of the operation. Hence the treatment by *caustics* requires to be considered; these give less pain, and the wound heals more readily than that left by the knife. Nor is the result less complete, as "there is good reason to believe that the modifying influence of the caustic, probably sometimes extends also to cells and structures which may be wholly, or only in part, affected and morbidly altered, and which lie beyond the line of immediate extirpation." Caustics may be applied to all forms of cancer. The remedies from which the best have been obtained, are the *chloride of zinc* used in the form of a paste with starch or flour, the *pernitrate of mercury*, and the *sulphate of zinc*. The latter, when dried and powdered, is a very powerful caustic. Prof. SIMPSON applied it in several cases with complete success. To apply it to the base, or into the interior of a tumor, it may be mixed with sulphuric acid.

The greatest advance in this treatment has been in the more clear and practical views as to the mode of using the caustics, their introduction into the centre or the base, so as to produce quickly mortification of the entire mass. With the sulphate of zinc, an ordinary quill-pen may be used. Saturate strong sulphuric acid with the zinc dried and powdered; dip the pen into it, and lay the caustic in a number of lines across the tumor. Soon the skin is killed in the course of these lines; then scratch the filled pen along these lines, and the skin is readily cut through. Fill the fissures with the paste, and every day or two renew it, thus cutting down. In the first application, he usually made a fissure of a fourth or three-eighths of an inch in depth. Thus, in five or six days, a good-sized tumor may be removed. Dress with black

wash, chloride of zinc, sulphate of zinc, or nitrate of silver. The healthy skin at the edge of the mass usually granulates, and is partially cicatrized before the dead tumor is separated.

MAISONNEUVE, of Paris, recommends "caustic arrows;" these are pieces of paste of chloride of zinc, in the form of small cones, sharpened to facilitate their entrance into the mass. He usually punctures the tumor all around, and introduces an arrow deeply into each wound. Or, he introduces, parallel to each other, a number of flattened pieces of the paste.

Perhaps, as these cause severe hemorrhage, arrows of chloride of zinc and perchloride of iron might answer better.

The injection of a sulphate of zinc lotion, or of some other equally powerful caustic, by means of a small syringe, has been tried, but not with the best results as yet. Perhaps, if a larger tube were used, and such articles as the perchloride of iron thrown by one opening, but at different angles, into the mass, more beneficial results might be obtained.

MAMMARY NEURALGIA (MASTODYNIA).

Occasionally during lactation, the mammæ are the seat of intense neuralgia, compelling the woman to abandon nursing unless relieved. For this condition Dr. FORDYCE BARKER has found *quinine* in full doses twice a day an efficient remedy.

It is not uncommon in the early months of pregnancy, and also in non-pregnant women of a hysterical constitution, to find instances of neuralgic pain in the mammæ. In most of these cases, narcotic fomentations, and opium internally, will give relief. Occasionally the hypodermic use of morphia will be requisite.

TANNER speaks well of the *valerianate of iron* or of *zinc;* and also of the tincture of *actea racemosa*, combined with small doses of *aconite* where there are signs of engorgement. *Cod liver oil* has relieved some cases which have resisted all other remedies. He has found quinine chiefly serviceable where some degree of periodicity is manifest. Mental relief will always be given by calming the patient's fears as to the nature of the disease, since directly a nervous woman has pain in the breast, she usually concludes it must be due to cancer.

Dr. ANSTIE says that in some cases, discontinuance of nursing has been found necessary, but generally, complete rest, protection of the breast from air and friction, and the hypodermic injection of *morphia* will rapidly relieve. Very frequently it is the result of malnutrition, and is then readily and permanently cured by an abundance of easily digested, nutritious food. As medicaments, we may use the *tincture of chloride of iron* in full doses, and still better, combine it with *strychnia*, 10 minims of the iron to $\frac{1}{16}$ grain of the strychnia. Arsenic, phosphorus, and belladonna have each proved extremely useful.

GALACTORRHEA.

An excessive flow of milk, while very exhausting to the woman, is exceedingly liable to cause positive and permanent ill health. Many authors relate cases of insanity which were undoubtedly due to an excessive flow of milk inducing anemia; and the anxiety of the mother to nurse her child, fearing that her increasing weakness would incapacitate her, has culminated in mania, perhaps causing her to take the life of her offspring. The milk itself is apt to be thin and watery, deficient in the vital constituents. The treatment will consist in the generous support of the woman by appropriate food, avoidance of fluids, and the use of astringent tonics. If not readily checked, and the general health shows indications of being affected, lactation may be partially or wholly suspended. *Coffee* is regarded by some authorities as capable of suppressing the supply of milk. The editor has used it for this purpose, but as this was associated with other remedies, he is unable to give its true value.

PROF. WM. LEISHMAN, M. D., GLASGOW.

Says the quantity alone may be abnormal, and only requires interference to guard the health of the mother from the unnecessary drain. This requires regulation of the woman's diet. Or in addition to the excessive quantity, the bulk may be mainly of water, thus affecting the health of child and mother. As this is believed to be associated with a phthisical tendency, it would be better to wean the child.

C. H. F. ROUTH, M. D., LONDON.

This author considers the treatment as both dietetic and medicinal. If the woman have suffered from menorrhagia, or other habitual discharge, and is not weak, purgatives and other derivatives may be used, the breast kept cool, and the child not applied more frequently than every three hours. It is, however, generally the result of weakness; hence tonics are required, especially those of an astringent character, as oak bark, cinchona bark, and most of the vegetable infusions, while the bowels are regulated by alteratives. Along with these give good wholesome food to improve the strength of the patient and the quality of the milk. Nutritive, but not stimulating drinks, may be allowed in moderation.

When the flow is greatly in excess, and there is danger of mischief, as inflammation or abscess, antigalactics may be necessary. Of these there are four: *iodide of potassium*, belladonna, colchicum and iron. Of the first, Prof. ROUSSET says it occasions a considerable decrease of milk, and prevents or removes milk knots, if at the same time the child is not nursed, but the milk returns if the medicine is not used longer than two or three days. The dose should not exceed five to eight grains daily. The secretion of milk can almost be completely prevented, if this drug is given on the first or second day after delivery.

Belladonna appears to act differently according as it is exhibited. In 1829 Dr. FIFIELD, of Weymouth, used it to allay irritation of the breast. Dr. SCHNUR in 1834 employed a liniment of laurel water f.℥ij, sulphuric ether f.℥j, extract of belladonna ℈ij, to rub the breasts to arrest milk abscess. Dr. GOOLDEN employed it, smearing the axilla and breasts freely. It entirely relieved the symptoms in several cases. Several others have been equally succeeded. Mr. W. NEWMAN, of Fulbeck, England, used it in cases where the suppression was desirable because of the death of the child, or the necessity of weaning, or where engorgement supervened, and abscess threatened. He employed the extract softened with glycerine, and in every case resolved the engorgement, or arrested the secretion. BERRY believes that belladonna acts primarily on the muscular fibre. The lacteal tubes, in part muscular, are thus dilated, and one of two things occurs. The milk is either absorbed, like any other effusion, by the absorbents or veins *in situ;* or, it may be drawn out. This effect is produced by the child, or by a poultice, which assists the dilatation of the external tubes. In threatening abscess, it acts as a sedative. Therefore he believes that it merely prevents accumulation. It should not be used sparingly, but freely, in the form of extract all over the breast, except the nipple and areola. Never fail to wash the nipple before applying the child.

(I can fully substantiate the views of Dr. ROUTH in regard to belladonna, having relied wholly upon it for nearly twenty years in a large obstetric practice, and where a good extract was used and applied freely, as above, I have never known a failure. The secretion may be completely arrested in one breast for any cause, while it remains unaffected in the other. Or where abscess is feared, the free application from one to three days will positively

relieve the engorgement, and nursing may continue as desired. I generally order

296. ℞. Extracti belladonnæ, ʒij
Ung. petrolei, ℥j. M.

to be rubbed freely over the whole of the breast, except the nipple and areola. In several instances I have thus produced the toxic effect of the drug, but the secretion was only reduced, not entirely arrested, while the symptoms of abscess speedily disappeared.—EDITOR.)

GOOLDEN says that when milch cows eat the *meadow saffron* (*colchicum*) in the pasture, their milk is immediately dried up.

ROUTH believes that *iron* is certainly an antigalactic, especially if the astringent preparations are used. Mr. STANISLAUS MARTIN, of Auvergne, noticed that drinking ferruginous waters caused the milk of animals to dry up. He tried it with a nursing woman, and the milk began to disappear. Dr. RICHARDSON, of Tunbridge Wells, found the quantity of milk thus to be decreased in the plethoric, but where there was general debility, anemia, it was increased.

The following is certainly effective as an antigalactic:

"Beat up the yolk of an egg to a froth, add olive-oil and honey, of each two tablespoonfuls, thicken with flour to the consistence of an ointment, spread it on a rag, and lay it on the breast; change night and morning, and wash the bosom before each renewed application."

GARDNER and DOUTREPOINT, speak well of conium. Others recommend tobacco and peppermint.

Where the flow is too free by reason of relaxed fibres of the parts, etc., astringent tonics may be given, but we require other aid. Cold water may be applied two or three times daily to the nipple, not to the breast, and very slightly retractile collodion may be brushed around the nipple, and not upon it. The gutta-percha collodion is preferable; it constringes the nipple, and thus leaking is prevented; decoction of oak-bark or alum, with the addition of a little gum, is a good local application. Internally, *nux vomica* or *strychnine* may be given, with or without quinine. It strengthens muscular tone and nervous force.

JOHN WM. LANE, M. D., LONDON.

(*Medical Press and Circular*), for more than ten years has employed

the following method to prevent the secretion of milk in the breasts of women who may have had still-born children, or who, after after having nursed their child for a few months, found it necessary to wean it.

It consists in taking a piece of emplastrum adhesivum of about ten inches square, round the corners, cut a hole in the centre for the nipple, then from the centre of each corner make a straight cut toward and within two inches centre of the hole; having now got it ready, let the patient lie on her back, her body being perfectly horizontal; warm the plaster and place it over the breast, then strap one of the lower corners down first, draw the opposite one tightly upward and fix its place, then the other lower corner, and lastly the opposite upper one, having drawn it sufficiently tight first; now take a piece of plaster two inches wide and about sixteen or eighteen inches long, and put it on from below and outside the breast, across, close by inside of nipple, and fasten the end over the clavicle; another piece may also be put on in an opposite direction, it being drawn over the shoulder. Of course, in cutting the plaster and strips, the size of the breasts must be taken into consideration, there being so much difference in the size of female breasts.

RÉSUMÉ OF REMEDIES.

Agaricus, gr. iij. in pill, will lessen the secretion in weaning, etc.

Alumen, in powder, boiled in milk, is an efficient popular means to "dry the milk."

Atropia has been found efficient in excessive secretion of milk.

**Belladonna* is probably the most efficient drug known to check galactorrhea. It should be applied locally and taken internally. When a woman is subject to galactorrhea during nursing, she should begin the application of belladonna ointment to the breasts several months before confinement.

Caffea, has been found effective in the editor's experience (p. 327).

**Camphora* possesses well ascertained powers of checking the lacteal secretion, and may be advantageously combined with belladonna.

Cannabis Indica. The volatile oil of *cannabis sativa.* employed in warm embrocations on the breasts, is said by CONTEUX to be the best of all agents to check galactorrhea and prevent mammary engorgements.

Colchicum. It has been observed that cows which eat the meadow saffron have their milk dry up; Dr. KEATING, of Philadelphia, has observed a similar effect in nursing women from the administration of colchicum.

Conium plasters were formerly used to dry up the milk. By a prolonged use of it internally, the mammary gland has been known to become atrophied, and its secretion to have been gradually suspended (STILLÉ).

Ergota has a positive influence in galactorrhea.

Iodinium, in small and repeated doses, will check excessive lactation. As an ointment to check the secretion of milk, Dr. J. L. LUDLOW, of Philadelphia, recommends:

297. R. Iodinii, gr. x
Camphoræ,
Extr. belladon., āā ʒj
Cerati resinæ co., ʒj. M.
Apply to the breast.

Linimentum Sapono-Camphoratum, or *Opodeldoc Balsam*, rubbed on the breasts, has been observed to lessen the secretion, probably owing to the camphor in it.

Mel. In Italy, inunction of honey to the breast is popular at weaning.

Potassii Iodidum will lessen the flow of milk.

Rhamnus Catharticus, in infusion, internally, is recommended by Italian physicians (FONNSAGRIVES).

Salvia. Strong sage tea is a popular remedy to dry the milk at weaning time.

AGALACTIA AND OLIGOGALACTIA.

PROF. J. B. FONNSAGRIVES, M. D., PARIS.

This writer (*Therapeutique Appliquée*, 1878), states that the agents to increase the secretion of milk find their application in three events:

1. That the milk is insufficient for the child.

2. That the secretion having become recently suppressed, an effort is made to re-establish it.

3. The sudden cessation of the secretion is coincident with the development of symptoms more or less serious in the mother.

1. *Means to increase the milk.* True galactogenic agents increase the quantity without diminishing the quality of the milk. Abundant and succulent food, fresh air, plenty of sleep, exercise, and if required, bitter tonics, are the more rational measures. In Brittany, cider, beer, and especially oatmeal porridge, have a wide reputation. Of drugs the *Galłega officinalis* has been asserted on good authority to increase both the quantity and the quality of the milk.

2 *Means to re-establish the lactation.* When after temporary intervention, it is desired to renew the secretion, the most efficient agents are: (1) *Suction*, either by the mouth of the infant or the nurse, or by one of the instrumental methods now familiar. (2) *Topical applications.* Of these the leaves of the castor oil plant, *ricinus communis*, deserve special mention. A handful of the fresh leaves is boiled in half a gallon of water, and the breasts are gently bathed and rubbed with this decoction for fifteen or twenty minutes; after which a poultice of the boiled leaves is laid upon the breast, and allowed to remain there till dry. If the secretion does not reappear in a few hours, this is to be repeated. (3) *Faradisation.* The apparatus should be at moderate force, the conductors moist, the muscles of the breast should not be included in the current, which should be confined to the gland, and the sessions should last about twenty minutes each. The success with this means has been positive.

3. *To prevent accidents from sudden cessation of milk.* These accidents have been greatly exaggerated by the older teachers of medicine, and these effete notions still prevail among the common

people. When they are believed to be present, the indications are to relieve the system by brisk watery purgatives, or to restore the secretion of milk by some of the means which have been above mentioned.

C. H. F. ROUTH, M. D., LONDON.

To induce a flow of milk in the breast, *mechanical* treatment may be applied to the breasts or to the genitalia—as witness, the effect of the application of the child, and this should be carefully persevered in.

Electricity is a powerful stimulus, as Becquerel, Althaus, Skinner, and others, have proved in repeated cases, where they have succeeded in bringing on or restoring the secretion. Skinner's mode is:

Direct.—both poles are covered with moist sponges; the positive is pressed deep into the axilla, and the negative applied to the nipple and areola; the current being no stronger than is agreeable to the patient. Keep this position for about two minutes. Both poles are then to be inserted into the axilla, and gradually brought together, the negative to the sternal, the positive to the opposite side of the organ. This may occupy about two minutes.

Intra-mammary.—Imbed the poles in the mamma, move them about, raising and depressing both at once in and about the organ for another two minutes. Perform this daily. Generally one or two sittings suffice.

As there exists great sympathy between the breast and the genital organs, the proper functional use of the one will influence the other.

Women who are nursing should have abundance of fresh air and cleanly surroundings, both of which are aids to lactation. As defective lactation is often induced by improper food, this, too, should be carefully observed, and supplied in sufficient quantities, and of proper quality—fish, rich in phosphorus, as oysters and crabs. In his own experience he gives the preference to *conger-eel* soup. It is particularly nourishing, and readily improves the appetite and strength. Among vegetables, are the *lentil* powder, pea soup and bean soup, all of which improve the flow and richness of milk. Turnips and potatoes are generally regarded as galactagogues. Edible fungi also increase the secretion. This author

particularly lauds the *Elaphomices granulatus* or *Boletus*, or deer balls.

Drinks are useful, but are apt to be abused, as ale or porter. Best of all is milk itself, which may be alternated with the malt liquors, say two or three tumblers of milk to one of stout, or they may be combined.

Of *medicines*, he has found useful the *Saponaria Vaccaria*, cow basil, vaccaria in strong infusion; the *Sonchus Arvensis*, corn sow-thistle, in decoction; and the *Ricinus communis*. The latter, Routh was the first to use internally as a decoction in England. Every time the flow has been remarkably increased. Some apparent objections to its use are, a sensation of dimness of vision; the dose requires to be increased, as it appears to lose its effect, a temporary suspension is best. Again, it seems to act as a diuretic. Here the breasts should be kept warm, and this result is less likely to occur. Where the diuretic effect is produced, it is well to smear the extract of the leaves over the breast in the same way as belladonna is used, with a warm ordinary poultice outside. Dr. ROUTH uses a decoction of the leaves and stalks of the *Ricinus*. When an infusion of this article is given to non-suckling women, he has observed an internal pain in the breasts which lasts three or four days, and a copious leucorrheal discharge, after which the pain in the breast disappears.

In two cases, he saw emmenagogue effects. In both, there existed uterine congestion. This proves that the remedy should not be used in cases where there is disease or irritation of the womb. Its action is remarkable in that it is not restricted to any particular portion of the suckling period; it may be immediate, that is, within twelve hours, rarely a week elapses before its galactagogue effect is observed; and lastly, its good effects do not wear off after a protracted continuance of its use, but its omission will often lead to a diminution, if not cessation of the secretion.

The *Jatropha Manihot*, the *tapioca* or *cassava* plant, is said to act in a similar manner.

The *Coronilla Juncia*, milk vetch, commonly called the milk weed, is second only to the castor oil-bean; the fennel, dill, carrot, and several others, are popularly used, and no doubt more experience would prove their value.

Common salt may be regarded as a specific galactagogue. *Cod-*

liver oil undoubtedly would act efficiently, though it has not been sufficiently tested.*

PROF. F. WINCKEL, M. D., ROSTOCK.

Requires good nourishment, and tonics or stimulants. In some a tea of fennel and anise seed has acted well, or the milk powder of pulv. semin. fœnic., sugar, cort. aurant., āā 2 grains, magnes. carb., 4 grains.

Where on the contrary, the flow was too free as in *galactorrhea*, he would restrict the diet, promote copious alvine discharges, moderately compress the breasts, and nurse less frequently, and give *iodine* or *iodide of potassium*, 5 grains, three times a day.

KIWISCH suggests the injection of a solution of *caustic potassa*, 12 to 60 grains of water, into the excretory lacteal ducts. HAUCK uses compresses wet with decoction of oak bark, and afterwards a solution of *nitrate of silver;* others quinine, ammoniated iron, alum, quassia,, and belladonna.

LANGE advises the *lactate of iron* with *phosphate of lime.*

JOULIN uses *Agaricus albus*, one gramme daily in four doses. VEIT resorts to purgatives, diuretics, and diaphoretics, and daily friction of the skin with hand and brush. ABEGG brings on in the course of 10 or 12 days, by means of the uterine douche, a moderate uterine hemorrhage, thus effecting a cure.

E. CUTTER, M. D., BOSTON, MASS.,

In an article entitled, "Food as a Remedy for Agalaxia," says that he was led to the consideration of this subject by observing dairymen increase the quantity and quality of milk in cows by feeding them on bran, shorts, and meal. Hence, he was encouraged to see if nursing women might not do as well if they subsisted on cereal food that had not been subjected to an abstraction of seventy-five per cent. of its mineral ingredients. He employed a diet, excluding flour, but including wheat and maize unbolted, but ground coarse or fine, and animal food, and ordinary vegetables. In each case there was an abundant supply of excellent milk, and the child thrived accordingly.

There are five grains, namely, wheat, rye, barley, oats, and maize, each and all sufficient for the purpose of supplying an aliment that

*For a very interesting article on the subject of galactagogues we refer the reader to Routh's valuable work, "On Infant Feeding," to which we are indebted for the foregoing.

contains elements enough to sustain life in health, and enough, in the writer's opinion, to make milk.

It is the excess of starch in flour, and the abstraction of three-quarters of its mineral elements, that, in the writer's judgment, cause the agalaxia generally observed.

ROBERT P. HARRIS, M. D., PHILADELPHIA,

In the *American Journal of Obstetrics*, Vol. II., p. 675, shows the value of milk as an article of diet for the nursing woman. It should be given in addition to the other diet, and partaken of in small quantities frequently repeated. Chocolate, cacao, and broma, made with a large proportion of milk, generally pure, is of great value, and should always be employed prior to the abandonment of the effort to nurse the child.

PROF. WM. LEISHMAN, M. D., GLASGOW,

Suggests artificial feeding of the infant for a time, and the application of warm fomentations to the breasts; the leaves of the castor-oil plant have also been extensively used as a local application. The leaves are boiled in water, and applied along with the water as a fomentation.

RROF. FORDYCE BARKER, M. D., NEW YORK.

Considers this as often the result of an improper diet of the lying-in woman. She is kept for a number of days on poor and insufficient food, for fear of fever, etc.; and this, added to her exhaustion from labor, and a greater or less loss of blood during and after delivery, render her system incapable of performing the work assigned it.

RÉSUMÉ OF REMEDIES.

Fœniculum in hot infusion, or a few drops of the oil, are popular remedies in deficient secretion.

Gallega. The goat's rue has a reputation in France. The *Gallega Virginiana* of this country has a similar repute in some parts of the United States (STILLÉ).

Ricinus. Castor-oil plant leaves are alleged to be very efficient (pp. 332–334).

Faradisation is much praised by French writers.

Fomentations, warm or hot, will frequently restore the secretion when temporarily checked.

DISEASES OF THE NIPPLES.

PROF. FORDYCE BARKER, M. D. NEW YORK,

For sore nipples, recommends the following:

298.	℞.	Plumbi nitrat.,	gr.x–xx	
		Glycerine,	f.℥j.	M.

He also directs, as soon as the child is taken from the breast, that the nipple be painted freely with compound tincture of *benzoin.*

If the ulcerative process has commenced, stop nursing from that nipple and paint it with a solution of *nitrate of silver*, of the strength of gr. x. to f.℥j. of distilled water. For inflammation of the nipple he recommends a soft bread and milk poultice for a few hours, and then keep the breast covered with one or two thicknesses of linen wet with a solution of lead and opium.

299.	℞.	Aquæ rosæ,	f·℥iijss	
		Liq. plumbi subacet. dil.,	f.℥ss	
		Ext. opii aq.,	℥j.	M.
Ft. lotio.				

After the inflammation is so far subdued that nursing can be borne without much pain, he applies the following after carefully washing the nipple:

300.	℞.	Aquæ rosæ,			
		Glycerin.,	āā	f.℥ij	
		Acidi tannici,		℥ij.	M.
Ft. lotio.					

(*L'Union Médicale du Canada*, January, 1879.) The treatment recommended by M. BROCHARD for fissured nipples, is so simple that it deserves to be popularized. When chaps exist on the nipples, whatever their extent, the nipple should be washed with pure water, and then dried and dusted with *suberin*, which, as is known, is impalpable cork powder. The author has used it for several years, and prefers it to lycopodium for infants.

Dr. HAUSSMANN, of Berlin, recommends compresses soaked in a five per cent. lotion of *carbolic acid*, and changed every two or three hours, as the best remedy for sore nipples. If both breasts

are affected, and, nevertheless, suckling has to be carried on, the nipples must be carefully washed each time, before the infant is put to them, to prevent poisoning by the acid.

The treatment pursued by Dr. HUEBNER, of Dresden, Saxony, in all lesions of the nipple and areola, consists in the constant application, day and night, of lukewarm compresses, wet with *lead-water*; fissures, ulcers, and excoriations being touched once or twice a day with *balsam of Peru*, and the breast well supported. The child should nurse less often than usual, and, where possible, through a nipple-shield. He recommends the warm lead-water in mastitis also, to be followed by strapping of the breast and free incision, while suppuration is promoted by poulticing.

In chaps of the nipple, Dr. CHARRIER, of Paris, recommends the employment of perfectly pure *picric acid* in the following formulas: *a.* One and a half parts to 100 parts of distilled water; *b.* one part to the 100 parts. After thoroughly cleansing the nipple with tepid water, the solution *a.* is to be applied every morning with a pencil to the cracks; and immediately after suckling, the nipple is to be held for four minutes in a glass containing the solution *b.* The infants do not notice the bitterness of the medicine, and willingly take the breast.

Dr. LE DIEBORDER, of Paris, thinks that in obstinate fissure of the nipple, *quinine* will prove to be of the greatest service; and during a long experience of it, has always found that a cure was effected in from three to five days. He generally prescribed a dose of six grains early in the morning, and a similar dose about eleven o'clock, a. m. Local treatment was considered of secondary importance, being confined chiefly to poultices and some simple wash or salve.

MR. ROBERT DRUITT, LONDON.

301. ℞. Acidi tannici, gr.iv
Aquæ destillatæ, f.℥vj. M.

This solution, as well as ointments and glycerites of tannin, is useful in *cracked nipples*. It should be applied on lint covered with oiled silk.

DR. BLACQUIÉRES, FRANCE.

302. ℞. Extracti krameriæ, gr.xv
Olei amygdalæ dulcis, f.℥ss
Butyri cocoæ, ℥ijss. M.

To be applied to *cracked nipples* when the child has ceased to nurse; to be removed before nursing.

303. ℞. Zinci oxidi,
Sodæ boratis, āā gr.iss
Olei amygdalæ dulcis, f.ʒiss
Butyri cocoæ, ℈iv
Olei bergamii, gtt.v. M.
A useful liniment for cracked and chapped nipples.

GERMAN HOSPITAL, PHILADELPHIA.

304. ℞. Extracti opii, gr.iss
Liquoris calcis, f.ʒv
Olei amygdalæ dulcis, f.ʒiij.
Dissolve the extract of opium in the lime-water and the oil, and shake vigorously.

MR. ERASMUS WILSON, LONDON.

The mucilage of *acacia* is a useful application to sore nipples. It should be penciled on the part immediately after suckling, and the nipple then be protected by a leaden shield. Or the following powder may be applied:

305. ℞. Acaciæ gummi pulveris,
Sodæ biboratis, āā ℥ss. M.

SAMUEL SLOAN, M. D., GLASGOW,

(*Obstet. Jour. Grt. Brit.*, Jan., 1878), gives this plan: Carefully wash off the nipple with tepid water after each nursing; then wash it with weak spirit lotion, and glycerine, to prevent drying; or, if the excoriation be advanced, add an astringent, as tannin or a weak solution of nitrate of silver. If the part be not inflamed, to protect the nipple use a shield and apply a mild ointment, as oxide of zinc. If the nipple be retracted, gently draw it out with a breast pump. If still painful, use a glass nipple with a rubber teat. This ought to be of a proper shape; if too narrow, it constricts the nipple and occludes the ducts; if too long, a vacuum is caused between the extremity of the nipple and the mouth of the child, so that it can not draw the milk into the teat. If too long, it will also tickle the fauces of the child.

Before applying the child to this nipple, the latter ought to be filled with some of the mother's milk; or, if this is not practicable, with sweetened milk and water. Some children take so kindly to this artificial nipple that it is difficult, after being long accustomed to it, to persuade them to use their mother's nipple again. But, should only one nipple be affected, this will not readily happen, *especially if the artificial teat be small enough.* The shield and

teat in one piece, made of India rubber or other soft material, as softened ivory, will make suction easier for a weakly child, if it can be borne by the mother. There is, however, with its use, considerable compression of the nipple by the child's gums. A good artificial nipple has yet to be devised. If the nipple-shield can be borne, and the child can be coaxed to use it, there will be little difficulty in curing the nipples on general principles. In the event of excoriation of the nipple continuing after this attempt with the artificial nipple, and ulceration setting in, there remains no course but to take the child at once from that breast till the part is sufficiently restored to permit of its reapplication. And here the careful use of a good breast-exhauster is important. For, should the breast become engorged while the nipple is tender, there is every prospect of abscess of the breast taking place. No matter how tender the nipple may be, a careful regulation of the compression ball by the hand, with occasional relaxation of the nipple to prevent occlusion of the lactiferous tubes, will always result in the almost painless removal of the milk; though, should the breast be hard and yet no milk come, gentle friction at the periphery of the breast may be required to expel the milk from the gland proper into the lactiferous reservoirs under the areola, whence the breast-exhauster will readily withdraw it. It will now be a comparatively easy matter to heal the nipple, since the first step in treating a disease is to remove the cause; the impracticability of doing this rendering the treatment of the nipple so unsatisfactory. If there be ulceration, careful washing and drying of the nipple, and the application of the solid nitrate of silver *to the part affected only*, will generally suffice. This treatment by a "tough caustic point" is, when combined with the use of the nipple-shield, a certain cure of the fissures which occur around the base of the nipple. If the part be inflamed, sedative applications or poultices will of course be the first indication. Should the affection of the nipple arise from an aphthous condition of the child's mouth, the application of borax and glycerine, or chlorate of potassa dissolved in glycerine, is the proper treatment for the nipple as for the mouth. Perhaps it may suffice to point out, regarding some recent investigations which have been made as to the quality of the milk as a factor in the production of sore nipples, that, where one nipple only is affected, this condition of the milk can have only a very limited effect as an exciting cause.

It is pleasing to pass from the too often disappointing treatment of tender nipples to consider the possibility of having the nipples perform their natural functions without the usual morbid results.

It has been customary to order, as a prophylactic, weak spirit and water, or other mild astringent, but no evil results from the application of stronger astringents. As an astringent, however, especially if strong, is likely to cause a hardening only, and not a toughening of the nipple, we may have this organ cracking as soon as the outer film of hardened cuticle is removed, on the first application of the child to the breast. To obviate this, mix glycerine with the astringent, and some fatty substance, as lard. The selection of the particular astringent is, of course, of importance; but the thoroughness with which it is applied is more so. The solution preferable is made thus: A large teaspoonful of dry tea is put into a two-ounce vial, one ounce of brandy and a quarter of an ounce of glycerine are added, and, after a few days, with occasional shaking, the solution is ready for use. For two or three months previous to parturition, the nipples should be thoroughly washed every night with cold water and glycerine soap, dried, and the above solution carefully brushed over the nipple, but especially around the base and into the apex. This is left on all night, and, in the morning, the lard is rubbed well in.

During this treatment the dress ought to be loose; and, if the nipples are at all retracted, they ought to be drawn out occasionally by suction or with the fingers and thumb. A circular piece of some unirritating material, with a hole in the centre, might be used in severe cases.

When the child is born, examine the nipples and breasts. If the latter are flaccid, do not put the child early to the nipple; and, when the milk has appeared, advise the application of the child at intervals of not less than two hours, and to both nipples at each application, giving careful instructions against letting the nipple remain in the child's mouth after it has emptied the breast, and especially against allowing it to sleep at the breast. The nipple is to be moistened with water or saliva before applying the child to it; and, when the infant quits the breast, the nipple should be washed with a mild astringent and antiseptic solution with glycerine; as a teaspoonful each of whisky, tincture of arnica, and glycerine in a wineglassful of cold water. The nipple, as soon as the infant leaves the breast, is washed with this and partially dried,

and a nipple-shield at once applied to protect the nipple from friction against the dress.

C. H. F. ROUTH, M. D., LONDON.

Of soothing applications, in mild cases, gum, honey, solution of tolu, or Friar's balsam, may be applied with a camel's hair brush after each act of suckling. Often, melted mutton fat, put on warm and allowed to cool, will heal such sores when everything else fails. Fuller's earth or bismuth are useful, but the *civeolia levigata* is a powder superior to any other. It is eminently soft, and will sometimes cure the most obstinate sores.

Caustics are efficacious if employed skilfully. A solution of 5–10 grains nitrate of silver, in an ounce of water, or 10 grains of chlorate of potassa, or bicarbonate of soda, will prove very healing.

Shields aid greatly by protecting the part. The caoutchouc nipple is preferred. Stretched on a glass or wooden base, they are better. Or the nipple may be wholly of glass or wood. It should fit the mother's nipple exactly, and not be too deep.

However, prevention is better. For two months or so before delivery, the nipple should be carefully sponged night and morning with some astringent lotion, as oak bark, or cologne water, to overcome the delicacy of the skin, and the nipple brought out by the use of the shield.

E. W. SAWYER, M. D., CHICAGO.

This writer, in the *Chicago Med. Jour. and Exam.*, Dec. 1877, advises to remove the organ from the irritation by the use of a shield. They are all made to cover the nipple, as a thimble, and rest air-tight upon the breast, and are surmounted with a false nipple of caoutchouc. If aspiration is applied to the rubber nipple, an incomplete vacuum is formed in the shield, which is filled by the milk from the ducts. The most efficient, at the same time the cheapest and most simple variety of nipple shields, is a plain bell-glass, with a broad base to rest upon the breast. If the bearing surface of the shield is wetted with saliva or glycerine, it will fit upon the breast more tightly.

It is true that the use of this kind of cupping glass is not always free from pain, because it induces an engorgement of the nipple; but there is no other way in which the nipple can be placed so nearly at rest, at the same time that lactation is kept up. The immediate relief and rapid improvement which have followed the

temporary use of this means, in cases where all sorts of lotions and collodion coating had failed, is surprising.

It sometimes happens that the child is not vigorous enough to draw the milk through the shield; then the aspiration should be made by an adult. In this manner the breast can be sufficiently emptied to protect it from trouble, until the lesion of the nipple has recovered. In the mean time the child can be sustained from the sound breast. Sometimes both nipples are the seat of lesions at the same time. Under these circumstances, if the child is unable to draw the milk through the shield, some other means must be devised, so that the milk may be saved for the infant. Make use of that simple form of breast-pump, which is practically like the nipple-shield. The bell-glass has a diverticulum, in which the milk is collected; and in place of the false nipple, there is a large rubber bulb, by means of which the vacuum is made. The milk can be poured from the receptacle, as often as filled, kept warm, and fed to the child with the spoon, or the simple nursing bottle.

To cure the ulcers and fissures after the part is thus placed at rest, the *benzoated zinc ointment* is best. Wash the part carefully with castile soap and water, and cover the entire nipple and areola with the ointment. This need not be removed before drawing the milk through the shield. A few drops of *carbolic acid* will increase the efficiency of the ointment. For very red and highly inflamed nipple, the best is a lotion of *acetate of lead.* This must always be washed off before the the milk is drawn. If the ulcers are indolent, touch them with nitrate of silver. Ordinarily the ulcer needs only to be kept clean.

If the fissures are deep, glue the wound by coating it with collodion.

PROF. W. S. PLAYFAIR, M. D., LONDON.

Prepare the nipple during the latter months of pregnancy, by daily bathing it with a spirituous or astringent lotion, as cologne and water, or a weak solution of *tannin.* Wash and dry the nipples after each act of nursing, and if tender, protect it with a shield. Dr. WILSON, of Glasgow, in fissures of the nipple, uses a lotion of ten grains *nitrate of lead* in an ounce of glycerine, applied after each time of nursing, and the nipple carefully washed before the child is allowed to nurse.

This author finds nothing so good as a lotion of one-half an

ounce each of sulphuric acid and glycerine of tannin, and an ounce of water, the beneficial effects of which are sometimes remarkable.

PROF. WM. LEISHMAN, M. D., GLASGOW.

Uses in obstinate cases,

306.	℞.	Ac. tannici,	gr.iij	
		Glycerini,	f.℥ss	
		Ung. cetacei,	℥j.	M.

In fissures, introduce this by means of lint. If the margin be callous, apply solid nitrate of silver.

PROF. FLEETWOOD CHURCHILL, M. D., DUBLIN.

Prefers nitrate of silver in weak solution applied after each suckling. Mr. DRUITT recommends five grains pure *tannin* in an ounce of distilled water. Dr. JOHNSON applies alternately:

307.	℞.	Sodæ boracis,		℥ij
		Cretæ præp.,		℥j
		Spt. vini,		
		Aq. rosæ,	āā	f.℥iij, ft. lotio.
308.	℞.	Ceræ albæ,		℥ivss
		Ol. amygdal. dulc.,		f.℥j
		Mel. despumat.,		f.℥ss.
Dissolve by heat, then add by degrees,				
		Bals. Peruvian,		f.℥ijss. ft. unguent.

Drs. MCCLINTOCK and HARDY use tincture of *catechu*.

M. BOURDELL applies lint soaked in tincture of *benzion*, repeated so as to form a coating over the sore.

SAMUEL SLOAN, M. D., GLASGOW,

(*Obst. Jour., G. B. and I.*, Jan., 1878,) employs prophylaxis against sore nipples. He puts a large teaspoonful of dry *tea* into one ounce of brandy and a quarter of an ounce of glycerine. With occasional shaking, after a few days it is ready. For two or three months prior to delivery, the nipples are to be washed nightly with cold water and glycerine soap, dried, and the above solution brushed over the nipple and its base. In the morning, lard is well rubbed in. The dress must be loose, and retracted nipples drawn out. After delivery, moisten the nipple at each nursing, and after it wash with whisky, tincture of arnica and glycerine, each a teaspoonful in a wineglassful of cold water. The nipple shield must be used to prevent irritation by the dress. When suckling deprives the nipple of its natural oil, apply fresh oxide of zinc ointment.

PROF. F. WINCKEL, M. D., ROSTOCK,

In simple erythema and phlegmon, compresses wet with lead water may be applied, taking care to cleanse the nipples before nursing. If there are slight erosions or excoriations, use a solution of *nitrate* of *silver*, one part to thirty; or *alum*, *sulphatr* of *zinc*, etc., or *sannin*, one to fifty. Ulcers may be covered with balsam of Peru or copaiva, always using a shield to prevent a continuance of the irritation. When the raw spots remain, or the ulcers increase, the patient has fever, etc., wean the child. VELPEAU uses lotions of lead water, or of oil and red wine, oil and lime water equal parts, nitrate of silver or sulphate of zinc, one or two parts to six of water. Cracks he sprinkles with the seeds of earth moss. Inflammation he treats with local discutients, mercurial salves, and poultices.

LEGROUX paints the parts with:

309. ℞. Collodion, 30 p
Castor oil, ½ p
Oil of turpentine, 1½ p.

and then covers them with gold beater's skin perforated with pin holes over the apex of the nipple. Soften this covering with sugar and water before the child nurses.

BOURDEL and ANSELMIER use the powder and tincture of *benzoin*.

ELSÄSSER uses oil of *cloves* with lime water in inflammation, and in painful bleeding excoriations, applies unguent. rosae, with laudanum and *oxide* of *zinc*. Ulcers he covers with balsam of Peru.

RÉSUMÉ OF REMEDIES.

Acacia is extolled by WILSON and others, as an excellent application (F. 305).

Argenti Nitras is a useful application. The caustic pencil may be applied to the fissures or ulcers, or the part may be enveloped in lint wet with a weak solution. It is especially called for when the fissure is at the base of the nipple and very painful. After the caustic, compound tincture of benzoin should be applied.

Balsamum Peruvianum is valuable for local use. PHILLIPS recommends:

310. ℞. Balsami peruviani, f.℥ij
Olei amygdal. dulc., f.℥iss
Acaciæ, ℥ij
Aquæ rosæ, f.℥j. M.

Apply five or six times a day.

Benzoini Tinctura Comp., may be used with most satisfactory results in most cases. Wipe the nipple dry after the child has nursed, and with a brush apply four or five coats of the tincture. It may at first produce some burning, but cicatrization will soon take place under this coating. It does not interfere in the least with lactation.

Bismuthi Subnitras. As a neutral protective and absorbent powder, none can be found superior to this.

Calcis Liquor is a soothing application in light cases.

Carbolicum Acidum has been much praised by Dr. HAUSSMAN, of Berlin, (p. 337). Its advantage is, he claims its capability not only of reaching and superficially cauterizing the open mouths of the finest lymphatic vessels laid bare in the wound, but also of *penetrating completely* into them, so as to destroy any parasitic germs or infectious organic bodies of any kind which may be brought to the nipple by the child's mouth, the hands of the mother, doctor, or nurse, or in any other way, and so prevent the developement of the various forms of inflammation in the breast itself. The application of carbolic acid is not nearly so painful as that of nitrate of silver, and a cure is obtained more quickly with the former than the latter drug. A strong (5 per cent.) solution seems to be decidedly more efficacious than a weaker (2 per cent.) solution.

Collodion is a protective agent often of service. Dr. ALBERT H. SMITH, of Philadelphia, employs

311. ℞. Emplastri plumbi, ℥ij
Ætheris sulphurici, f.℥ss
Collodion flexile, f.℥j. M.

Powder the lead-plaster, add the ether, and mix them well together before adding the collodion. It makes a creamy mixture, and is to be applied with a brush over every portion of the carefully dried nipple, with the exception of the opening of the milk ducts.

Galla has been found useful by Dr. Q. C. SMITH.

312. ℞. Pulv. gallæ, ℥j
Olei menthæ piper., gtt.x
Tinct. opii camphor., q. s. M.

Make a thick paste and apply just after the child nurses. It should be removed by gentle washing before the infant nurses again.

Glycerina is much employed as an excipient. The glyceroles of lead, tannin, etc., are frequently efficient.

Hydrargyri Chloridum Mite. When the ulceration has destroyed the surface of the nipple, Dr. BARKER recommends that the child be prevented from nursing, and the following applied:

313. ℞. Hydrargyri chloridi mitis, gr.xxx
Magnesiæ, gr.xx
Unguenti rosæ, ʒj. M.
Rub together very carefully and prepare fresh daily.

Iodoformum. Dr. M. O'HARA, of Philadelphia, uses:

314. ℞. Iodoformi, ʒss
Collodion, f.ʒj. M.

Krameria is popular with some. (F. 302.)

Picricum Acidum has been extolled by Dr. CHARRIER. (Page 338.)

Pix Liquida is a valuable local application in eczematous conditions of the nipple.

Plumbi Nitras is, according to Dr. BARKER, the most complete prophylactic against the occurrence of sore nipple that we have. He directs, as soon as there is any inflammation of the nipple, to apply a poultice until the immediate symptoms are subdued, and then apply a solution of nitrate of lead gr. x, to glycerine f.ʒj. It should be used immediately after nursing, having washed the nipple perfectly clean. The nitrate is said to be of little use after fissures have actually occurred.

Plumbi Subacetatis Liquor is a grateful cooling lotion, properly diluted.

Salicylicum Acidum has been tried with excellent results in cracked and lacerated nipples. It is important not to apply it too strong, or it will irritate. Numerous and careful trials in the Vienna Hospitals have decided that the strength must not be over four per cent., as:

315. ℞. Acidi salicylici, gr.xv–xx
Alcoholis, q. s. to dissolve
Unguenti petrolei, ʒj. M.
Apply on lint, or rub in several times a day.

Sodii Biboras in solution and ointment has a long-standing reputation.

Suberin has been recommended (p. 337).

Tannicum Acidum is an excellent astringent. Dr. S. S. PURPLE, of New York (*Medical Record*, 1879), employs:

316. ℞. Acidi tannici, ʒj
Acaciæ mucilaginis, f.ʒiij
Aquæ, f.ʒij. M.
It can be applied to the nipple and breast with the finger, and should remain exposed to the air until perfectly dry. The glass can then be worn over the nipple to protect it from the clothing, and he usually had no trouble in the management of the case.

Zinci Oxidum is a soothing application in the form of the benzoated ointment.

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